

A LONGITUDINAL FOLLOW UP
OF A PRESCHOOL INTERVENTION PROGRAM
FOR MEXICAN-AMERICAN MIGRANT CHILDREN
IN PRIMARY GRADES

By
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To
Ann and Amy
whose encouragement and support have been
very special

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The school achievement of twenty Mexican-American migrant children in Hardee County, Florida, who participated in a six-month pilot preschool intervention program when they were three years old, was studied to determine longitudinal program effects from kindergarten through third grade. Fourteen Mexican-American migrant children, from highly similar home environments who entered kindergarten in that county at the same time as the program group and were in attendance in the school system during those same four years, served as a comparison group for this study.

The six-month intervention program emphasized a child-oriented curriculum, focusing on growth in language, cognition, and self-esteem in the children. To insure the acceptance of cultural and language differences, bilingual aides from the Spanish-speaking migrant community worked with the teachers, thereby facilitating the use of Spanish, the home language of the children, in both conversation and instruction

and bridging the cultural gap between the home and the school. English was encouraged and used increasingly as children learned initial concepts in Spanish, grew in their understanding of English, and became comfortable with the school language.

The results indicated statistically significant differences in mean scores in standardized tests in favor of the program intervention subjects at the kindergarten, first, and second grade levels. The program group appeared to evidence greater skill in language use necessary for achievement in the Caldwell Preschool Inventory in kindergarten, the Metropolitan Readiness Test in first grade, and the language component of the Comprehensive Test of Basic Skills in second grade. By third grade, the achievement scores on the Comprehensive Test of Basic Skills and the communication component of the Florida Statewide Assessment Test showed no statistically significant mean differences. The gains evidenced prior to that testing period appeared to have "washed out." Relevant to the study, however, were the number of children retained at grade level from each of the two groups: six of the fourteen comparison subjects had been retained with only two of the twenty program subjects retained. This proved to be statistically significant.

The findings of this study indicated that early intervention into the learning of Mexican-American children from the migrant population in Hardee County did make an overall significant difference between experimental and comparison children, even within the severe time limitations of the intervention program. Further research is indicated to determine whether or not a bilingual-bicultural early intervention program of longer duration, and controlled for longitudinal program evaluation, for children of similar home and cultural environments could increase even more significantly the achievement gains of K-3 migrant children.

CHAPTER I

INTRODUCTION

At a national conference on Early Childhood Education and the Chicanito in 1972, it was estimated there were 75,000 migrant children under the age of six who traveled with their families throughout the United States (Chavez, 1972). Chicanos, blacks, Indians, Puerto Ricans, and Anglos made up the migrant population that moved in three broad streams originating in Texas, California, or Florida and moving into and throughout most of the states. Rivera (1970) reported that approximately 70 to 75 percent of the migrant labor force at that time were Mexican-Americans. Although national concern for the education of seriously disadvantaged children had been evidenced with the passage of the Elementary and Secondary Education Act of 1965, migrant families had not been included in the 1960 census; therefore, they were not counted in estimating state funding allotments. In November 1966, Title I of the Elementary and Secondary Education Act was amended to include the children of migratory agriculture workers to insure provisions of adequate program consideration and funding to meet their particular needs (Rivera, 1970).

Under this amended Public Law 89-750, the Florida Department of Education, Migrant Education Section, initiated a pilot project during the 1969-1970 school year for four-year old migrant preschool children in five counties in South and Central Florida. Most of the children who attended the initial programs were "American Negro, the second group

in size was Anglo-White, and the third group Spanish, both Texas-Mexican and Puerto Rican" (Curtis, & Klock, 1970, p. 2). The following school year, 1970-1971, an expanded Early Childhood learning program for both four and five-year old children was underway in counties with a high migrant population (Combs, 1971).

It was at this time (December 1970) that the Institute for Development of Human Resources, University of Florida, in cooperation with the school authorities of Hardee County, Florida, entered into an agreement with the Migrant Section, Florida Department of Education, whereby the Institute would be responsible for the development of a curriculum for three-year old migrant children in a pilot program at the Zolfo Springs Elementary School site. It was the responsibility of this investigator to design and develop the educational curriculum to be used in that preschool intervention program which was operational from January 1971 through May 1971.

Statement Of The Problem

Most of the children who entered the preschool intervention program were from the Spanish speaking Mexican-American migrant population of that county. It was the purpose of this study to evaluate the early elementary school performance of those Mexican-American migrant children who attended the intervention program, and to determine whether or not there were longitudinal program effects on their school achievement from kindergarten through third grade.

The preschool program was designed to effect change in the expected school achievement of the migrant children who attended the program. Evaluation was made using the criteria of Hardee County public schools for determining school success through the testing procedures adopted

by that county for elementary children. Whether or not positive changes in anticipated school achievement could be measured five years after this intervention program was a concern of this study.

Factors Influencing the Decision for
the Preschool Intervention Program

It is important to the problem to consider the state and local concerns for migrant education that led to the agreement for a pilot early childhood program in that county. Entrance into a formal school setting was difficult for migrant children who came from restricted educational environments and who had learned more from the indirect modeling of peers and older siblings than from parents and other adults. Similar to the child care patterns of most migrant families, young children were often left in the care of older children while both parents worked in the groves or fields. Sometimes, the very young were taken with their parents and left quite on their own during the work day from early morning to early evening. Concern was expressed not only for their safety and well being, but also for the lack of an enriching learning climate (Combs, 1971).

For Hardee County migrant children, there were additional disadvantages. There was no public school kindergarten program in the county to help bridge the gap between the "free" home environment and the traditional first grade classroom environment. Also, there was the fact that a large part of the migrant population was Mexican-American with Spanish as their native language, and in most instances, their only home language. Typically, Mexican-American children entered first grade in that county with limited language facility, even in Spanish. For most of the children, English was not at all a part of their home world; for a few of the children, their language was neither Spanish nor English, but a hybrid language referred to as "Spanglish" (Laosa, 1975, p. 625).

Once in school, and with English as the only language used for instruction, Mexican-American children experienced difficulty "catching up" to those children who already knew the language of the school and could gain, therefore, more easily from the instructional program. Nedler and Sebera (1971, p. 259) wrote of the same language difficulties and deficits found in the Mexican-American children with whom they worked in the Southwest Educational Development Laboratory programs: "Where the language of the home and the language of the school are different, the problems are multiplied for the child."

The language factor, in combination with the cultural-environmental differences of the Mexican-American migrant families, increased the probability of these children falling behind in the formal educational program of the public school. Reissman (1962) stressed that children who come to school from a different culture will be at a disadvantage in reaching the expectations of a school curriculum developed on middle-class cultural values. This has been actualized many times in school settings throughout the county and reported by educators developing curricula to compensate for cultural differences in the mid to late 1960's (Garden, 1971; DiLorenzo & Salter, 1968; Kamii, 1971; Weikart, 1967; White, 1970). Hardee County School personnel expressed particular concern for the success of their Spanish speaking elementary school children. Below average achievement at grade level for children from the migrant communities, as reported by school administrators, gave credence to their concern.

Teachers in that county were not insensitive to the problems facing the migrant children in their classrooms. The language differences seemed to be at the heart of the problem. Bruce Gaarder (1975, p. 4), in reviewing the effectiveness of programs serving Spanish speaking children

under the Bilingual Education Act, made the following observations:

"Teachers were not prepared to work professionally through the medium of a non-English tongue," and even those who spoke Spanish had been "educated exclusively through English." Hardee County teachers faced this same dilemma. There were no Spanish speaking faculty members; teachers who might have learned Spanish at one time in their own schooling were not able to speak it well enough for conversation with the children let alone for instructional purposes. The use of paraprofessionals from the Spanish speaking migrant population was not yet considered a source of assistance in the classrooms to English speaking teachers and Spanish speaking children.

The deficits in learning of these migrant children which created an increase in their school failures were found in both cognitive and affective skills which were required of them when they entered public school. Children were unable to demonstrate cognitive potential in a school system where standard English was the mode of communication. Affective deficits appeared to result from feelings of nonacceptance as a belonging member of the permanent community, which even young children learned quickly from the feedback their parents got from others and passed on to their youngsters in many ways (Hoffman & Mottola, 1971).

In considering all of these factors, the limited academic success for the Mexican-American child in Hardee County during these years was undoubtedly the result of language differences in a school where no one spoke Spanish to and with the child, of language deficits resulting from an educationally impoverished family, of cultural differences not fully understood and accepted by the school community as well as the larger community, and complicated further by the very nature of the migrant family. In the migrant family's mobility, children were often lost

to the full benefits of the educational program through natural attrition caused by the families' movement in the migrant stream. Even though migrant families in that county often returned for fall to spring field labor, for school age children this meant continued late entrance into and early exit from school. Mobility of families existed within the county, too. Sometimes, the late entrance was into one of the three elementary schools in the county and early exit was from a different one of the schools. In Zolfo Springs, where the school population included well over 50 percent migrant children moving in and out of the school program during the year, and with the majority of these children from Mexican-American homes, concern for the educational success of these children was especially great.

The preschool intervention program, implemented in Hardee County, was an attempt to prevent the expected school failure of the disadvantaged migrant child and especially the Mexican-American migrant child in that county. Whether or not the program made a lasting difference became the basis for this present study.

Summary of the Preschool Intervention Program

General objectives for the Florida Migrant Early Childhood Learning program for four and five-year old children had been developed (Combs, 1971; Curtis & Klock, 1970). Primarily, the objectives were guidelines for insuring a health and nutritional emphasis in an educational environment conducive to expanding language and social-personal development to meet the needs of migrant children. Encouragement was also to be given to parents to participate in center activities and to contribute information as to cultural differences. These general objectives served as the only state guidelines for planning the Hardee County program for three-year olds.

The program was designed under the pressure of limited time and had to be operational within a few weeks in a fieldbase some distance from the University without the direct supervision of the curriculum designer. Because of this, the curriculum had to be without the complexities of laboratory design. It had to be understood easily and accepted as valid by those responsible for its implementation in Hardee County. It had to be planned for monitoring curriculum modification and instructional strategies through bi-weekly on-site consultant visits. With these restrictions, the program was developed in an attempt to bring about an increased opportunity for future school success for the children who would participate.

Broadly stated, the major goals of the preschool intervention program designed by this investigator were similar to those of many early childhood programs: to maximize the educational potential of the participating children and to increase the probability of their future educational success in public schools in Hardee County. Four components made up the program design: an educational curriculum component, a home-school component, a preservice-inservice training component, and an evaluation component.

The Curriculum Component Of The Preschool Intervention Program

The curriculum resource guide (Hoffman, & Mottola, 1971, p. 3-4) presented the following considerations for the curriculum design:

1. a language-oriented program to bridge the gap between home and school oral language;
2. a task-oriented program to increase the child's ability to solve problems at his/her particular state of intellectual and motor-skill development;
3. an experience-oriented program to assure opportunities for

- effective relating to school and the larger community, and expanding knowledge beyond the immediate home environment;
4. a social-emotional development program conducive to growth in self-esteem; and
 5. A health and nutritional program to enhance physical well-being necessary for the realization of a total life program.

Restatement of the curriculum design in terms of goals for learning for the three-year old migrant child followed the statement of curriculum components:

1. to communicate more effectively, both physically and verbally;
2. to learn how to learn: to explore, to question, to solve problems;
3. to supplement, augment, and compliment known home experiences with experiences in the school community;
4. to increase awareness of self as a giving and receptive person, worthy of recognition and acceptance, and capable of successful experiences in the school world; and
5. to increase understandings for care of one's physical self.

As the instructional objectives of the program were developed and presented, giving more specific direction to the teachers for implementing the curriculum, the nature of the preschool intervention was stressed:

1. to use the family language (Spanish) whenever appropriate in both conversation with the children and instruction in the program;
2. to use English simultaneously as a second language to help children become familiar with, understand, and use the language of the public school;
3. to provide planned concrete learning activities, geared to

- each child's cognitive and experiential level; and
4. to increase the use of English in instruction when children evidenced attainment of cognitive skills and the ability to talk about this learning in their own language (non-standard English or Spanish).

Rationale for the Curriculum Component

A rationale for each of the curriculum components was also presented by Hoffman & Mottola (1971, pp. 5-23). The rationale was stated to be easily understood by both the professionals and paraprofessionals who would work in the program. Because of the time interval between the development of the preschool curriculum and this present study and with the influences of increased professional knowledge and understanding about early intervention into learning, it seems wise to depend upon condensed but direct quotes from the original curriculum guide for the underlying considerations for the curriculum at the time this investigator designed it. Therefore, the following sections on language, cognitive task, experience, and self-concept components of the curriculum design are statements of the program design rationale taken in part from that document.

Language Component Rationale. Close interaction with adults on a verbal plane is necessary for the young child to learn his language. If this is absent, or if the verbal plane on which the child is communicating is one of non-standard English [or nonstandard Spanish], language development reflects this lack. The quantity and quality of speech of an individual are directly related to the environment in which the person lives. Language does indeed "mirror" life around the child.

The fact that migrant children have continued failures in public schools indicates serious problems in communication between English speaking teachers and nonstandard English speaking (or Spanish speaking) children. Children feel inadequate when no one knows how much they have to contribute in their own language or teaches English as a second language to supplement their own home language.

It is important that the child's native language be accepted as his and of importance because it is his. What is being advocated is that the migrant child needs to have teachers who speak and understand the child's language, build upon its strengths, and then add a school language which will help the child make ideas and knowledge known, secure information, learn more about the world, and grow in ability to communicate effectively in the school world. Children need (1) to talk and be listened to with acceptance of teachers and peers; and (2) to listen in order to understand perceptually that which is being said in Spanish and in English. Effective communication between child and child, and child and adult, is important.

To meet the first need suggests providing experiences that bring natural responses from the child about his own world and environment and help him say to the school, "My world has meaning." This happens when teachers create opportunities for children's talking and teacher's listening. The second language need is a prerequisite for meaningful oral communication. If the receptive language ability--that which involves the ability to comprehend what is being said--and the inner language--that which involves the ability to think to oneself in word--are inadequate or restricted, then the expressive language ability--that which involves the ability to express one's own ideas in words--creates difficulties for school success.

Bzoch and League (1969) showed, through the development of their Receptive-Expressive Emergent Language Scale for measurement of language learning in infancy, that many children evidence a lag between the two languages. The gap between the three language abilities (stated above) often widens as the migrant child progresses through public school. The one obvious reason is the lack of developing the needed oral school language.

If the child is to talk, if he is to learn new ideas to talk about, if he is to understand others and be understood by them, he must encounter language opportunities. Frost (1968, p. 383) stated: "For the teacher, the verbal behavior...is concrete evidence of the starting point for the child's education. From that point education is a matter of change, often radical change, but the beginning of the educational encounter is brought to the school by the child, from the environment which has shaped and educated him until the moment of formal education begins." Communication with the child is the teacher's responsibility as is the reconciliation of home and school.

Cognitive Task Component Rationale. In a curriculum for three-year old migrant children, it seems appropriate to combine the strengths of the child development-oriented program with a compensatory educational program which, through increased intellectual stimulation, could overcome

early learning deficiencies in these children. This is to be done through specific teacher-directed learning episodes geared primarily for intellectual growth -- a series of tasks which select activities for their cognitive content.

Piaget's (1969) theory of the development of intelligence offers suggestions for building a cognitive curriculum for young children. It is within this framework of insight into stages of intellectual development that there may be answers to developing a program based on objectives necessary as prerequisites for subsequent learning. For Piaget (Lavatelli, 1970), the child from about two to four years of age must relearn on a conceptual level what he had learned in the sensorimotor stage, a preverbal stage where reasoning is accomplished by means of mental images rather than language.

The child appears to be constantly investigating his environment and exploring the possibilities for action within it. He must have the opportunity to manipulate things, to ask questions, to seek answers, to compare findings. He must have a chance to do his own learning under teacher guidance, not teacher domination. As the child discovers new ways of doing things, new symbols to use in communication with himself and with others, he grows intellectually.

Ideas gleaned from the research of Kamii (1967) have been incorporated into the design of the tasks in this curriculum. Her understanding and experience in the practical application of performance tasks built on Piagetian concepts are recognized as valuable models in an attempt to build a sequence of cognitive tasks that have meaningful order for the developmental learning steps of the three-year old child.

Ideas are also based on tasks designed for the Home Learning Center Approach to Early Stimulation project at the University of Florida. Gordon (1970, p. 120) stated: "The principle is that [the] child learns best, and learns not only how to learn but also that it is fun, when you provide him with a variety of interesting and challenging things to do. These things teach him that he can do, he can affect his world, he is competent. With these basic building blocks of skills and self-confidence, additional experiences enable him to build his ability to learn and continue his growth in skills."

It must be remembered that tasks are for learning and not for testing. Teachers are to provide useful experiences so that children can grow in their knowledge and abilities. The task-oriented phase of this curriculum includes those cognitive tasks ranging from sorting and classification, to ordering and seriation, patterning, sequencing, and very early number concepts. These tasks are built on positives, and designed without the "pressure cooker" style of some traditional educational performance tasks.

Experience Component Rationale. The child-initiated activities through which much of the emotional and social growth takes place share equal importance with a culturally-enriching program plus teacher-directed learning episodes primarily for cognitive growth. An experience-oriented program is one in which the environment encourages action participation: doing, being, playing, working.

This part of the curriculum reflects the child's play as the way the child works and learns about the environment around him. Hymes (1968, p. 98) supported play as a time of earnestness and intensity: "Play for young children is not recreation activity, nor recess activity. It is not leisure-time activity nor escape activity. Free play is thinking time for young children. It is language time. Problem-solving time. It is organization-for-ideas time, when the young child uses his mind and body and his social skills and all his powers in response to the stimuli he has met."

Free play, which is initiated and developed by the child in individual play, in parallel play or in cooperative play, is lacking in structure other than that given it by a child's interests and his imagination. Teacher-promoted play, in which materials are arranged or activities are planned by the adult to promote learning about the larger world, is built upon the free play of the child and furthered by materials and equipment, field trips and visitors, the teacher may add and plan for stimuli.

Frank (1968, p. 437) wrote: "While play may be focused upon playthings and situations and people, it soon becomes concerned with ideas, concepts and assumptions by which the child carries on his many thought experiments." Spodek (1965, p. 157) emphasized the teacher's role: "The fact that significant learning can develop from play need not detract from the child's satisfaction The adult's selection and engineering depends upon the learning to be gained The content is to be added by the teacher who will serve as the resource person." Providing the opportunity for rich play-work learning experiences is a must in an educational program for all children, and especially for disadvantaged children.

Self-concept Component Rationale. To help children to be and to become is an important aspect of this curriculum. How well each child feels about himself determines his success in doing and being. The child who sees himself as less than others too often becomes that child who fails time after time until at last he gives up trying and becomes the "drop out" talked about so much.

The tasks related to building the migrant child's self-concept are aimed at demonstrating belief in the child's integrity as an individual, his right to be accepted as he is, his unique abilities, his pride in himself and his family. Goals for the child are becoming aware of self, of

others, of one's feelings, of other's feelings, of one's own language, of a second language, of one's own way of life, of others' life styles and of meeting success regularly. If the early years are of the importance we believe them to be, then feeling good about self at an early age gives greater assurance for continued feelings has a lessened probability.

Summary of the Curriculum Component

These preceding statements from the curriculum guide (Hoffman & Mottola, 1971, pp. 5-23) were the considerations upon which the rationale for the curriculum component of the preschool intervention program was based. The emphasis on language growth and development, both in Spanish and in English, was a major intervention plan. If children could be encouraged to work and play and therefore learn in their own home language as well as the school language, it was expected that cognitive and affective skills would be evidenced and growth promoted. If children knew that their own cultural background was valued and used in the learning environment, it was expected that positive feelings of self-concept would be enhanced and achievement would be greater. If children had an opportunity at an early age to learn more about the larger school world, entrance into public school would be less traumatic and adjustment made easier. If children were physically and nutritionally cared for, learning would be potentially easier, too. These considerations and assumptions were the bases for the curriculum of the preschool intervention program.

The Home-School Interaction Component of the Preschool Intervention Program

The home-school interaction concept came from the philosophy of the Florida Parent Education Model (Gordon, 1970; 1976) which supported the premise that education is enhanced when parent and child are involved together in the learning process. Because of the long working hours of both parents, junior and senior high school siblings of the preschool children were employed to work with on-site teaching personnel

in planning "home learning tasks" with the brothers and sisters in the preschool program. Home learning activities are designed experiences growing out of a child's interests at home or at school and based on physical, social, emotional, and intellectual needs (Packer, Hoffman, Bozler, & Bear, 1976; Shea & Hoffman, 1977). The adolescents spent two hours a week at the center in work-play situations with the children; a second two hours each week in preparing tasks with the teachers; and an additional four hours a week in the home settings working with the three-year olds in specific task direction. It was expected that the older children would help parents understand more about the preschool program, reinforce some of the learnings emphasized in the program, promote more use of English by the young children at home, and generally serve as liaisons between school and home.

Along with the use of these older children in this component of the program, bilingual aides from the migrant community worked in the classroom with the teachers in carrying out the daily educational program. Their active involvement with the children facilitated the use of Spanish with the children and also promoted a dialogue between the Mexican-American families and the school.

The Inservice Training Component for the Staff of the Intervention Program

The Institute for Development of Human Resources provided an on-going consultant assistance for pre and inservice training of the teaching staff as well as program implementation monitoring. Guidance from the curriculum designer permitted modification and expansion of the curriculum as growth in the children was evidenced. Since the teaching staff were not trained and experienced early childhood teachers and the program conceptualization new and untried in that county, it was believed that continuing on-site contact with the program

designer and sponsor would increase the chance of successful implementation. An early childhood consultant served as a liaison between the site and the Institute for Development of Human Resources.

The Evaluation Component of the Intervention Program

The assumption was made that the children would demonstrate increased problem solving ability as well as language growth by the end of the intervention program, due in large part to the acceptance and use of their own home language, the deliberate introduction of English into their school day learning, and a planned cognitive task component in the curriculum. To determine the effects of the program upon the participating children, pre and posttest data were collected by the Institute for Development of Human Resources staff on the program group as well as a comparison group, using the following assessment measures: the Arthur Adaptation of the Leiter International Performance Scale, described as a "nonverbal Binet for young children" (Arthur, 1952, p. 1); the Preschool Inventory (Caldwell, 1967); the Peabody Picture Vocabulary Test (Dunn, 1965), given in English and also in Spanish as translated for use in this program. A series of check lists, prepared by the investigator and completed by the teachers to sample various aspects of cognitive and language development along with growth in positive self-concept evidenced in each child's behavior during the program's duration, provided additional assessment information (Hoffman & Mottola, 1971).

Results of the Intervention Program Evaluation of Children's Gains

Evaluation of the intervention efforts by members of the Institute for Development of Human Resources indicated significant growth in a variety of areas for the children, even within the severe time limits of the program. The detailed evaluation results are described

in Migrant Early Childhood Education Program in Hardee County, Florida: An Evaluation (Newell, Cage, Hoffman, & Carr, 1971). Growth in the area of general intellectual competence for the children was reflected by a significant increase on the Leiter International Performance Scale. Significant improvement on the English version of the Peabody was obtained but no significant increase was found for the Spanish version. The Preschool Inventory indicated some growth in the children, although, because of the difficulties in administering this measure, no statistical analysis was done. The check lists completed on each of the children also reflected growth in the areas of language development, cognitive development, physical development and self-concept.

The study further reported that deficiencies in language and cognitive skill areas of these children can be and were, in part, overcome and, that were the program to have continued until the children reached public school age, even greater growth in these areas might have been noted (Newell, et al., 1971, p. 392. Although no plans were made at that time to assess longitudinal effects of the program, it was anticipated that the children would gain more from their elementary school experiences because of their participation in the intervention program.

Program Continuation by Hardee County

Short-term gains, as measured by the tests used for achievement data collection, were evident in the children's performance in the intervention program. Whether there would be long-term effects from the program was only a hoped-for expectation. However, the program attracted attention in its possibilities for Mexican-American children to enter public school with an educational "head start." The Hardee County Board of Public Instruction decided to continue such a program for migrant children. With the addition of a new kindergarten

program, some of the original program children had a opportunity for continued preschool education.

There is evidence of a self-report nature from the teachers in the program that the objectives of the pilot project curriculum continued to be stressed during the following year. The teachers' observation logs of children's behaviors indicated similar teaching strategies for children's learning as those recommended in the initial program. The bilingual aides remained as assistants in the program and it can be expected that because of their presence Spanish was used with children needing the familiar home language for communication purposes. There was no formal assessment made of children's growth; and direct influence from the initial investigator and sponsorship by the Institute for Development of Human Resources terminated along with the pilot program, June 1971.

Significance of the Present Study

The significance of this study lies in the potential for answering questions related to the elementary school success of the Mexican-American children who participated in the pilot preschool intervention program at age three and who have been enrolled in elementary schools in that county from kindergarten through third grade. The questions raised are (1) What do the scores on standardized achievement measures indicate for these children as a group when considered as evidence of school performance success? (2) Can the evaluation procedures used in this study indicate longitudinal effects of an intervention program upon school performance of these children? In other words, did the opportunity for a "head start" into kindergarten make any difference for the children in measureable ways?

At the time of this present study, twenty of the twenty-six Mexican-American children from the preschool intervention program were enrolled in one of the three elementary schools in Hardee County. It was because of the present enrollment of these children in this school system, the on-going support given preschool education in the county, the desire to have an objective evaluation made to indicate the value of such a program, as well as the professional interest of the investigator that the study of these children's school success was proposed and questions asked as to the effects of their participation in the intervention program upon the school achievement record.

School achievement is relative and school success is admittedly a vague term. Most elementary schools use traditional standardized achievement test scores to determine in part how well each of the students does compared to national, state, or local norms for those assessment measures. Cumulative records are kept for each child to plot this school progress. Also included in most school records are evidences of learning behaviors which indicate need for special compensatory programs within the school system. For example, special education, learning disabilities, speech correction, or social-emotional problems are noted with recommendations for follow-up and assignment to classes designed to meet these needs are indications of problems children are having in maintaining success in school. Attendance is also noted; the number of days absent during the enrolled months is considered to have an effect on how well a child is expected to keep up with the educational program. Some demographic data pertaining to the home environment is recorded with the expectancy that educational background of the parents, occupation employment, number of children in the family, and mobility of the family give further indications of

predictive school achievement. These factors are all considered by most teachers as contributing to the school performance of children.

If the intervention program children show significant gains in school achievement test scores and these gains can be attributed to longitudinal effects of the preschool program, there may be implications for program development and implementation in the regular school program in Hardee County or in other counties with similar school populations including many Mexican-American migrant children. With the continuation of migrant education funding of early childhood education programs for three, four, and five-year olds, there may also be implications suggested by the results of this study for curriculum determination and emphasis in such programs. Perhaps the real significance of this study lay in the opportunity to examine the school achievement for these particular children under real life conditions as opposed to tightly controlled, experimental conditions.

State of the Research Question and Hypotheses

The research question addressed in this study is: Did the preschool intervention program contribute to the school achievement of the Mexican-American children who participated in that program as determined by Hardee County public school criteria for primary grade success? If the children under study were affected positively by their attendance in the preschool program, then they would evidence greater achievement during the primary grades than a comparison group who did not attend the intervention program.

It was anticipated that the program group would have higher scores on predictive measurements for school readiness and for reading readiness at kindergarten and first grade than the comparison group who did not attend the preschool program. It was expected that the program group would evidence higher achievement scores on standardized test

batteries, especially those tests measuring language achievement, than the comparison group. It was further expected that the number of children retained at grade level by the end of third grade would be less for the program group than the comparison group. It was also anticipated that school attendance would be as regular for one group as the other, even though all of the children might not have enrolled at the beginning of the fall term and some might have left before school was officially over.

The following research hypotheses were formulated:

1. Group means on a standardized test for school readiness at the beginning of kindergarten will indicate significant difference in favor of the program intervention group.
2. Group means on a standardized test for reading readiness at the beginning of first grade will indicate significant difference in favor of the program intervention group.
3. Group means on a standardized achievement test at second grade will indicate significant difference in favor of the program intervention group.
4. Group means on a standardized achievement test at third grade will indicate significant difference in favor of the program intervention group.
5. The number of children retained at grade level by the end of third grade will be less for the program intervention group than for the comparison group.
6. Attendance records will indicate similar absenteeism for each group due to the migratory nature of all of the families.

Limitations of the Proposed Study

Whatever limitations are ever present in quasi-experimental post hoc studies are certainly potentially present in this study. The difficulties of evaluating longitudinal effects of early intervention programs on children's elementary school achievement are reported with consistency in the literature (Abt Associates, 1974, 1975, 1976; Campbell, & Erlebacher, 1970; Cicirelli, 1969; Datta, 1975; DiLorenzo, Salter, & Brady, 1969; Payne, Mercer, Payne, Davison, 1973; Rivlin, & Timpane, 1975; Stodolsky, 1971; White, 1970).

Since a longitudinal study was not proposed and planned a priori the factor of experimental-control group design was weakened. Random assignment to the preschool intervention program was not made. Children were enrolled from self-selection procedures of the parents, with the opportunity for participation made available through notices sent home to parents of school-age children and through home solicitation by the bilingual aides employed to work in the program. Only two of the original control group were still in the county; therefore, the comparison group was selected from those Mexican-American migrant children who entered kindergarten at the same time as the program group and were still in school through third grade.

The assessment measures used in the evaluation of children's school performance were those achievement tests used by the school system to assess school achievement and not selected by the investigator to measure defined criterion objectives from the original preschool intervention program.

The nature of the migrant family in its mobility was reflected in the assessment data available for use in this study: tests varied, depending upon the child's absence from school at the time a regularly

scheduled test was given; some test scores are missing completely because of late entrance and early exit of the migrant children; some tests differed because of children changing schools within the district and therefore could not be used.

There was no controlling for classroom-teacher assignment. The variables found in teacher-student interactions were recognized as variables for which there were no controls. It was also considered that Hardee County teachers might well have had expectations for increased school performance from the program intervention children. Their comments during the days spent by the investigator in data collection indicated their regard for the value of the program. This teacher-expectation may have had a self-fulfilling prophecy effect.

Within these considered limitations, it was hoped that by following procedures deemed viable and recommended for this kind of evaluative study, assessment could be made as to the longitudinal effects of the preschool intervention program upon the school performance of the participating children. Under the existing circumstances, it would be unwise to anticipate generalization beyond the population in this particular study.

CHAPTER II

REVIEW OF THE LITERATURE

In the past decade, writing in the field of early childhood education has been abundant. Authors have traced the history of early education and child development as well as presented new understandings in the cognitive and affective development of young children in numerous books and articles. Reports of innovative programs have appeared in many monographs. Curriculum guides, emphasizing different approaches to instructional procedures, have been developed. Entire journals have been published to provide updated information on research underway or to promote dialogue between differing philosophical positions regarding early intervention into learning. In the last few years researchers and educators have brought together the literature on early intervention programs.

For the purpose of this study, it was important to review relevant literature available at the time of the investigator's designing of the preschool intervention program. What had been learned in the following seven years might well have influenced differently a design of an intervention program today. The writer chose to review the literature from a chronological approach, looking at the advent of the federal government into education for the disadvantaged child, at the psychological underpinnings for the initial early intervention programs of the 1960's, at the philosophical bases underlying the

rationale for model intervention programs from which the Hardee County preschool program design drew heavily, and at the programs designed especially to meet the needs of non-English speaking preschool children in 1970. Finally, a review of the literature related to the longitudinal effects of early intervention into learning as well as the continuing problems inherent in evaluating early intervention programs from a longitudinal consideration was made. This chapter is addressed to these areas.

Federal Support for Education of the Disadvantaged Child

Programs for systematic intervention into early learning of young children came into national prominence in the 1960's with the advent of President Johnson's War on Poverty. Under the guidelines of the Office of Economic Opportunity (OEO) in 1964, the children for whom these compensatory preschool programs were to be carried out were determined in the first Head Start projects. Children whose families were economically, educationally, and socially disadvantaged were to be the target population. Within the first year of Head Start, over a half-million children had been in attendance (Evans, 1975).

Having defined the population, OEO called for a program emphasizing medical, dental, and nutritional attention for the children, social services for the families, active parent involvement, and an educational curriculum that would provide disadvantaged children a "head start" into kindergarten or first grade. There was no precedence for such a large scale intervention program; nor had early childhood research efforts clarified any single approach to instruction as the best one. The traditional nursery schools and existing public school kindergartens, designed primarily to enrich and enhance social-emotional

experiences for middle class children, had to serve as models for the instructional program of initial Head Start efforts (Hunt, 1972) under the pressure of too little planning time, lack of trained staff and material resources, and yet thousands of children in hundreds of varied settings. Existing health, welfare, and social service agencies were the sources for the other mandated services.

It is important to note that parent involvement was encouraged and promoted in two ways: through volunteer participation or in paid aide positions in Head Start classrooms, and as members of Community Action Program agency (CAP) governing boards (Economic Opportunity Act, 1964). These CAP boards were responsible for decision making at the local level concerning the approval of plans for Head Start programs as well as other programs to be funded to overcome problems in the poverty community.

Poverty parents found it financially difficult, if not impossible, to serve in volunteer capacities. Many parents, even though they had experienced limited success in schools themselves, were employed as classroom aides. This was a new experience for both the parents of this group and the professionals in schools. In some communities, where CAP agencies gave the responsibility of Head Start programs to groups other than the public schools, members of the poverty community to be served were the lead teachers of the Head Start children.

Local communities, especially their governing agencies, were not accustomed to making educational decisions with this new group of citizens having an active and shared voice; nor were the spokesmen for the poverty community experienced in the decision making process of which they now found themselves such an important part. However, the traditional policy-makers of a community and the almost politically-disinfranchized citizenry of the poverty community joined together and

learned to work effectively to begin to meet the expressed needs of Head Start children and their families. The impact of such a War on Poverty and the intervention program, Head Start, was to be felt for many years.

The second major thrust taken by the federal government to assist financially in the education of disadvantaged children occurred with the passage of the historic Elementary and Secondary Education Act of 1965. This legislation gave state education agencies the responsibility for developing a comprehensive educational program that would provide opportunities for local school systems to finance and implement programs to insure increased educational success for the educationally deprived child (Rivera, 1970). It had been assumed that migrant children would be among those who would most benefit from the legislation. However, as stated in the introduction to this study, migrants were not included in the 1960 census and, therefore, were not counted in estimating the monetary allocations needed for the eligible states. In November of the following year, 1966, Title I of the Elementary and Secondary Education Act was amended to include the children of migrant laborers. Migrant children were defined by the Office of Education as children of migrant agricultural workers who, within the past year, have moved across county or state boundaries for the purpose of obtaining agricultural work or related food processing activities. An amendment was made to that definition (Public Law 90-247) to include those migrant children whose parents have established a permanent home within the past five years (Rivera, 1970, p. 43).

Much had been written by late 1970 on the social, economic, health, and political plight of the migrant adult and his family. However, Cheyney (1972, p. ix), in compiling literature for a book on the education of migrant children, expressed concern with the

"dearth of information available that would help classroom teachers improve their understanding of migrant children and deal with the problems peculiar to them as individuals." Elizabeth Sutton's early migrant research and experiences, and subsequent chapter in Cheyney (1972, pp. 110-111) pointed out the need for modification of curriculum content to meet the migrant school-age child's particular needs, but stressed there was no stereotype of the migrant child, that the theory of individual differences among children held true for migrant children as well as all children, and "finally, the basic principles of good teaching are the same of the migrant child as they are for all children."

With the enactment of the amendment to the Elementary and Secondary Act to include children of migrant laborers, thirty states had initiated migrant programs and fourteen had expanded programs already in existence in 1967. These programs varied from the development of instructional units that emphasized oral language development of school-age children to summer programs for migrant families traveling in the migrant stream. Some states developed state-wide surveys to locate migrants eligible for specialized programs. In some of the southwestern states, public schools were considering the problems of late entrance into and early exits from schools of the many migrant children in the school population. It was under funding from the passage of this federal legislation that Florida initiated a pilot preschool program for four-year old children during the 1969-1970 school year and made possible the funding for the pilot three-year old program in Hardee County. The 1969-1970 evaluation of Florida Migrant child compensatory programs summarized these programs developed and implemented in the state under the Elementary and Secondary Education Act of 1965 (State Department of Education, 1970).

The literature most relevant to this study was found in research undertaken with young children in limited bilingual education programs and in other early childhood education programs for disadvantaged children. Since these programs had psychological underpinnings in agreement with what was known about early intervention programs in the late 1960's, it was important to review the rationale underlying considerations for most early childhood intervention programs at the time of federal legislation for education of the disadvantaged. The viewpoints discussed in this part of the literature review were very influential in the professional thinking of this investigator at the time for curriculum decision-making in the preschool intervention program design.

Psychological Assumptions for Intervention Program Models

Certainly the psychological underpinnings in the conceptualization of Head Start advantages for young children were strongly affected by the research and writings of child development psychologists whose position reflected belief in the value and necessity of enriched early educational experiences for positive, and even accelerated, cognitive development of many children. Havighurst (1948) had refined the concept of developmental tasks, promoted by Daniel Prescott at the University of Chicago, to include most of learning from infancy through later maturity. In stressing the importance of "teachable moments when the individual is ripe to learn," Havinghurst (1948, pp. 27-28) stated that "formal education may be defined as a procedure set up by a society to help children achieve certain of their developmental tasks." The educational implications of this statement suggested that "teachable moments" for certain developmental tasks to be learned by young children could be recognized and acted upon

more systematically by teachers than by leaving such teaching to chance by parents in educationally disadvantaged homes.

Bruner's views (1960) that selective and careful training would accelerate learning, and that there was nothing that could not be taught any child if taught at the child's stage of development were important in early childhood education considerations at that time. His interpretations of the structure of knowledge, along with the relationships made of early learning to later learning, were undoubtedly among the philosophical and psychological viewpoints that brought attention to young children's educational needs during this time of intervention consideration (Evans, 1975, p. 1).

The writings of Benjamin Bloom (1964) gave further indications of the importance of the early years for intellectual development as well as the significance of the home and cultural environment to this development. Children from low socio-economic status and minority groups were showing consistently lower scores on measures of intelligence than children from high socio-economic groups. Stodolsky and Lesser (1967) pointed out that as children increased in age, there tended to be even larger mean differences in intelligence between the two groups. If Bloom's arguments that the greatest amount of intellectual growth occurs during the first five or six years of life and that the child's environment during that period of growth is of utmost importance, then the planned and systematic learning opportunities through educational intervention programs for disadvantaged children were due important consideration.

The publication of Hunt's (1961) work on the relationship of intelligence to experience contributed new and profound insights into the question of fixed intelligence held quite firmly until then. His

position that intelligence was neither fixed nor predetermined but was closely related to the early learning experiences of the child suggested clearly that environmental changes for learning might greatly enhance the cognitive abilities of disadvantaged children.

William Fowler's research and writings (1962a; 1962b) presented justification for those who believed that learning in the early years had not been maximized for children; that children could be taught much more than they had been at home or in preschool programs; that, under the existing nursery school programs for young children, there was only a marking of time in learning. He proposed a systematic approach to devising sequential learning tasks that would increase in complexity and stimulate learning potential. Fowler's position was somewhat reinforced by Irving Sigel (1965, p. 3) in his contention that early education "can make a greater contribution to the child's cognitive development than is usually realized." However, Sigel cautioned against de-emphasizing the positive emotional climate of most middle class nursery school programs, and encouraged preschool education to address itself to the disadvantaged child who could benefit most from intellectual stimulation in such a program because of its virtually nonexistence in most poverty homes.

It was also in the 1960's that Jean Piaget, labeled "giant in the nursery" by David Elkind (1972) in a New York Times article, was "discovered" by American educators and psychologists. Translations and interpretations of his complex writings were more available and accessible for study. Flavell's (1963) translation of Piagetian psychology provided a thorough and scholarly work for those wanting to understand Piaget's theory of developmental stages in the cognitive growth of children and to make application of this understanding in their own research. The conclusions reached by Hunt and Bloom suggested their

studied analysis and consideration of Piaget's work. It was also evident in later research designs for early childhood programs that the theories of this eminent psychologist (Piaget, 1952; 1973; Piaget & Inhelder, 1969) had tremendous effect in the thinking of the authors of many intervention programs (Elkind, & Flavell, 1969; Maccoby, & Zellner, 1970).

The rationale for early intervention programs was summarized in Evans (1975, p. 6), and was attributed by that author to assumptions found in Blank (1970) and Sigel (1970). This rationale is quoted and paraphrased here because it represents the thinking of many concerned with intervention programs at that time: "Children are, by nature, malleable and their growth and development can be modified extensively in a variety of directions. The earlier one can effect a plausible intervention, the better"; the provision of qualitatively sound experience can compensate for basic lacks in children's environments. "Since the school's scholastic emphasis demands certain basic learning capabilities, these capabilities must become the focus for early intervention." Cumulative development is involved, whether the influence of early experience is salutary or hindering. Resources must be marshalled to prevent or remediate such disorders in cognitive performance that children fail to achieve their human potential.

Philosophical Bases for Intervention Models

It was important to stress once more that research efforts had not singled out any one best approach to instructional programming when Head Start was initiated. As communities struggled with the realities of a new educational program underway, educational psychologists and early childhood specialists were carefully designing and beginning to implement research-oriented intervention programs which had far-reaching effects on the future of Head Start and Follow Through, the

planned variation approach for each of these programs, and the continued early childhood thrust [Revlin & Timpane (Eds.) 1975]. Both politically and educationally speaking, it had been hoped that Head Start as originally carried out in the early years of the program would provide fast and long lasting results for poverty children's success in school. However, there were many public school and nursery school approaches being used with little attention given to what specific curriculum would be most effective. Goals and objectives were ill-defined and usually not stated in measurable ways. The Westinghouse Report (Cicirelli, et al., 1969), to be discussed more fully later in this chapter, emphasized in its recommendations the need for measurable results. Head Start Planned Variation and Follow Through were responses to this criticism.

Philosophical differences were evident among the educators who were designing and implementing intervention programs (Butler, 1970; Evans, 1975; Maccoby & Zellner, 1970; Weber, 1970). Programs varied from highly structured language-math orientation (Bereiter & Engelmann, 1966) to traditionally formal instructional programs (Karnes, 1969; Klause & Gray, 1968); from behavior analysis and modification emphasis (Bushnell, Worbel, & Michaelis, 1968) to cognitively-oriented Piagetian programs (Weikart, Rodgers, Adcock, & McClelland, 1971); from responsive care approaches (Nimnicht, McAfee, & Meier, 1969) to planned enrichment programs such as that of Bank Street (Biber, Wickens, Shapiro, & Gilkeson, 1971), the parent education and involvement programs of Gordon (1969, 1970a, 1970b), Levenstein (1970), and Schaefer (1970, 1972) to the programs building upon the strengths of the child's family language (Hughes, Wetzel, & Henderson, 1969; Nedler, 1966, 1967, 1971). From some of these research efforts, and others underway at various

colleges, universities or early childhood laboratories, came the models selected for Planned Variation Head Start programs, reflecting the philosophical differences in assumptions underlying the program designs.

Certain of these programs had philosophical bases that were, in part, the considerations for this investigator's preschool intervention program design. It seems important to focus on these while recognizing that the philosophical orientation of the other programs were just as valid and viable.

David Weikart and his associates (1971) had spent several years working with preschool children from disadvantaged home environments in the early Perry Preschool Project. From their understanding of the value of Piaget's contribution to knowledge about the developmental stages of young children's cognitive growth came the Cognitively Oriented Curriculum also known as the High/Scope Planned Variation Head Start (and later, Follow Through) Model. Psychologically rooted in Piagetian theory, the concepts of the program were philosophically based in the need for children to be active participants in their own learning and that a variety of experiences must be made available for learning to become all that is possible for the young child (Weikart, et al., 1971; Weikart, 1972). Classification, seriation, spatial relations, and temporal relations were cognitive understandings presented so that the child experienced these concepts on the motoric level, then the verbal level, but always in physical manipulation of the environment by the child (Kanii, 1972; Weikart, et al., 1971).

The Responsive Educational Program, directed by Nimnicht and growing out of the philosophy of the New Nursery School (Nimnicht, McAfee, & Meier, 1967, 1969), directed its attention to an autotelic

responsive environment: activities were done for their own sake; choices by the child as learner were promoted and accepted; and adults responded to children's choices with few teacher-initiated activities insisted upon for child participation. As the program has developed in Follow Through, children continue to work at their own pace with materials and equipment designed to promote self-confidence in problem-solving skills, sensory discrimination, and expressing ideas through language and art media. It would seem that the philosophy suggests the potential for increased learning when children select their own learning experiences and are assisted by adults responding to children's self-initiated activities.

Bank Street had for some fifty years developed an outstanding child-oriented program for preschool children in the belief that the interaction of the child with the social and physical environment of learning was of equal importance with the recognition that the child passes through developmental stages of cognitive and affective growth (Shapiro, & Biber, 1972). Educational goals for children in this program were the same for those who came from either advantaged or disadvantaged home environments. Biber, Shapiro, Wickens, and Gilkeson (1971, p. 7) stated that: "A program of education is derived from a system of values -- an image of man and man's relation to man Bank Street College programs are based on a consistent philosophy of education comprising values, goals, and strategies congruent with a humanistic approach. Central to this philosophy are concepts of competence, interperson relatedness, individuality and creativity." This approach for Planned Variation Head Start stressed children building positive feelings about themselves with teachers guiding the development of plans, choices, and activities with language conducive

to the formation of ideas and expression of feelings (Rivlin, & Timpane, 1975).

Ira Gordon's (1969; 1970) early research in the Parent Educator Program evidence a philosophy in support of the competence of parents in the education of their children. His premise that education is enhanced when parent and child are involved together in the learning process was the basis for the use of trained parent educators to visit in the homes of participating project children to work with mother-baby and mother-child activities that would promote both cognitive and affective growth in the children. The parent educators were women from the same poverty community as the families whose homes they visited. The Florida Parent Education Planned Variation Head Start and Follow Through Models stressed this same belief that as parents increased in their competency and feelings of self-esteem children would evidence enhanced intellectual growth and self-worth. This model was unique in the planned variation efforts in that no curriculum changes were set forth for classroom programs; the school curriculum was accepted with the addition of the parent educator as classroom-home liaison and parent involvement in the overall program planning through the Policy Advisory Committee (Gordon, 1970; 1972a; 1972b).

From these varying philosophical emphases, the design of the Hardee County preschool intervention program took shape. The "inter-person relatedness" of Bank Street's program, promoting concepts of competence, individuality, and feelings of worth about self, supported the rationale for the social-emotional development component of this investigator's preschool curriculum. The New Nursery School philosophy of an autotelic responsive environment in which choices are made by the child as learner to the experience-oriented component of the preschool curriculum. The task-oriented component drew quite directly from the

Cognitively Oriented Curriculum of Weikart and his associates--a Piagetian approach to learning based in the belief that children must be active participants in their own learning. The use of adolescents as home-school liaisons and the employment of paraprofessionals from the Mexican-American community as assisting teachers in the classrooms came from the Florida Parent Education Model of Head Start Planned Variation and Follow Through, designed by Ira Gordon.

The language-oriented component of the preschool intervention program was an attempt to emphasize the worth and need for the child's own native language to be accepted and used in the early childhood classroom setting. Support for this approach was found in some of the bilingual early childhood programs for preschool children in the 1960's. A review of literature at that time follows.

Bilingual Early Childhood Intervention Programs of the 1960's

Even as researchers turned their attention to various strategies of intervention in the early education of young disadvantaged children, few programs focused directly on the problems of children who spoke little if any English and how best to facilitate their entrance into the expectations of English speaking schools. It is true that the New Nursery School (Nimnicht, Meier, & McAfee, 1967) initial program was primarily for Spanish surnamed children who, in addition to environmental deprivation, had a different culture and often a different language. The Tuscon Early Education Model (Hughes, Wetzel, & Henderson, 1969) also emphasized starting with the child's family language; however, the program was not specifically designed for non-English speaking children.

School districts, primarily in the southwestern United States, were beginning to establish elementary school programs for bilingual

education. Texas and New Mexico led in this effort at that time. One exemplary public school program, initiated in 1963, was found in Coral Way Elementary School, Dade County, Miami, Florida, where a first "two-way bilingual" education program was conceptualized (Logan, 1970; Inclan, 1972). John and Horner (1971, p. 28) reported that the student body was mainly middle-income, half English speaking and half Spanish speaking Cuban refugees. They further reported that the program goal was to produce "literate, educated bilinguals" in both groups of children.

With fairly limited bilingual education in public schools, preschool bilingual programs were even fewer. Those for which program descriptions were available (John and Horner, 1971) and planned for Spanish speaking children between the ages of three and five were the Community Play Center Preschool in Redwood City, California, Escuela Hispana Montessori, in New York City (one of the first of the preschools to include bilingual emphasis in its program), St. Paul's Episcopal School in Brownsville, Texas, and Dos Mundos School in Corpus Christi, Texas.

Probably the most well-known research program for bilingual-bicultural children in 1970, developed in response to cultural differences rather than emphasis on cultural deprivation, was the Southwest Educational Development Laboratory's planned Bilingual Early Childhood Education Program (Nedler, 1966; 1967; 1971; 1972; 1975). In program development, the primary objective was to develop new methods for teaching English as a second language to Spanish-speaking children between the ages of three and six. Dr. Nedler (1972, p. 69) stated: "As new research pertaining to developmental theory has appeared, and as data related to the instructional program has accumulated, the conceptual design has been revised." These revisions were reflected in the initial program as contrasted with the program four or five years later.

Quoting from the proposal for the initial 1965 program at the Good Samaritan Center in San Antonio, Texas, Nedler (1975) wrote that the program would emphasize increasing the children's understanding and use of both Spanish and English and provide experiences to enrich the children's lives in preparing them for adaption to the American culture. In an earlier article (1966, p. 3) Nedler stated: "We accept the idea that a child's language is a part of him, and as we accept the child, we accept, recognize and give status to his native tongue." With this program emphasis and a philosophy of acceptance of Spanish at a time when Texas had just reversed state laws forbidding Spanish in schools, the Good Samaritan Center Program began.

A rather traditional activity-centered approach with the adults speaking either Spanish or English to the children produced a "naturalistic" learning environment. Observations of the children's behavior indicated that they felt comfortable and secure in the center, appeared to feel good about themselves, listened while being addressed in English, but conversed mostly in Spanish. They really only used English in a "practicing" way. A more structured approach to teaching English was then selected (Nedler, 1971; 1972). Strategies were changed to present concepts first in Spanish, and when the concepts were mastered, they were systematically introduced in English. This more structured approach was adopted as a "developmentally appropriate" and comprehensive learning system for young Spanish speaking children (Evans, 1975, p. 173; Nedler, 1975).

Nedler (1972, pp. 59-90) attributed the conceptualization of the Southwest Educational Development Laboratory's early childhood program for bilingual children to research and writings of other early childhood educators and psychologists such as Bruner, Cazden, Hunt, Bernstein, Bloom, Blank, and Ausubel. Some of the references made especially for

the approach used in language development came from the literature on bilingual education. The Lambert and Tucker (1972) report on the St. Lambert experiment, where English-Canadian children were taught French and English alternately and then simultaneously, demonstrated that children learned and developed thinking skills in a second language with no adverse effects from that particular learning process.

Hake's (1965) study on psychological aspects of bilingualism pointed to three specific problems related to second language learning: (1) differences in word order must be learned; interference and negative transfer inevitably results for the bilingual child; (2) sounds that do not appear in the person's native language causes discrimination difficulties because of the differences signaled in meaning in the new language; (3) the selection of the appropriate response in the second language causes interference with the new learning because of the previously learned response in the native language.

H. T. Manuel (1965) wrote that Mexican-American children, and especially the disadvantaged Spanish speaking children, face all of the problems of the disadvantaged child of any race but compounded by the lack of even good Spanish. When they enter school, growth in their own native language is arrested, if not stopped completely, because English is the language for all school communication purposes; and their lack of out-of-school contact with English slows down the development of skill in the second language.

Language development training has been an important part of all preschool intervention programs. The questions raised seem to rest with what, when, and how best to help disadvantaged children attain necessary language skills for future academic success in school.

Differences in language among social classes were stressed in the research and writings of Bernstein (1961). Labov (1970) suggested there was an equality of functional linguistic ability in children with nonstandard language. Vygotsky (1962) seemed to be in agreement with Piaget in that the development of intellectual structures are built through experience with language following the "knowingness." Sinclair-De-Zwart (1969, p. 316) presented a Piagetian conception that "the sources of intellectual operations are not found in language, but in the preverbal, sensorimotor period where a system of schemes is elaborated that prefigures certain aspects of the structures of classes and relations, and elementary forms of conservation and operative reversibility." Lavatelli (1970, p. 65), in writing about Piaget's language theory, referred to Sinclair's work and her interpretation of Piaget in making this conclusion: "Language is not the source of logic- but, rather, is structured by logic."

These studies seemed to indicate an agreement that a young child must experience the knowing of objects, experiences, and ideas before language is added by the child to express this knowingness. Varied strategies for language training have been found in research from the Blank and Solomon (1968) and Carden (1966) tutorial and "modeling" treatment to Berieter-Englemann's (1966) structured language drill. Programmed materials have been and still are used in many early childhood centers. Dunn, Horton, and Smith's (1965) Peabody Language Development Kit is one example of a comprehensive program for language stimulation and development. Gotkin's (1968) Matrix Games, the Language Master used in the New Nursery School, and the Talking Typewriter, The Talking Page and the Voice Mirror from the Responsive Environments Corporation are other examples of approaches to early language development for teachers' use with young children.

Certainly, children must become competent in the language of the formal school. In the light of the Coleman Report (1966) that school achievement is enhanced when children have a sense of control over their environment and feel good about themselves, any approach to language training that reflects understanding of the language and culture of the child may well contribute to the child's feelings of self-esteem and personal worth. For the non-English speaking child, "bilingual education may be the means of eliminating or at least minimizing the confusion and shame created in the non-English speaking child by the common educational practices of the day" (John and Horner, 1970, p. 149).

The language component of the preschool intervention program designed for the Hardee County project was based on the early bilingual preschool studies of Nedler, and Piaget's concept that young children need cognitive and affective experiences paralleling the growth of language.

The Literature on Longitudinal Evaluation of Intervention Programs

At the time of the preschool intervention program described in Chapter I, the effects of early intervention into learning had not yet been substantiated. There had not been time to evaluate longitudinal effects of programs; there were not enough children in the middle elementary school grades who had experienced well-implemented programs prior to their entrance into public school systems. Those evaluations that were available in 1970 and 1971 provided conflicting results. The reasons are many: clearly defined program goals and objectives were not always stated, data collection procedures were often inadequate, measurements did not always measure precisely-stated objectives, equivalent comparison or control groups were often missing, teacher variables were not usually considered, and research efforts for those programs

of the 1960's had not been adequately funded (Butler, 1970; Evans, 1975).

While many individual Head Start programs, as well as research programs designed with evaluation procedures built into the program, reported immediate and short term gains in children's scores on intelligence and achievement tests, these gains on a "variety of measures varied in statistical and educational significance from marginal to quite substantial" (Datta, 1975, p. 81).

Some of the conflicting results reported on longitudinal effect studies before Head Start Planned Variation was well under way are summarized here. Fuller (1960) found that out of seventeen studies dealing with the relationship of early childhood education to later school achievement, fourteen indicated positive results; Van Der Reit (1967) reported that children in preschool programs performed significantly better than children who had not been in such programs by the end of first grade. Pitts (1968) found that the length of preschool attendance was related to affective development but not to academic readiness. The review of Head Start research (Grotberg, 1969) was contradictory concerning the long range impact of Head Start; children did not seem to lose what they gained from the experience but leveled off to a point which allowed other children to catch up.

Weikart (1969, p. 3), in reviewing evaluation studies through 1969, wrote: "The basic conclusion is that the more structured or task-oriented the program, the greater the gains in immediate intellectual competence, and where follow-up data are available, academic achievement." Also in that year DiLorenzo, Salter, and Brady (1969) reported to the New York State Education Department that cognitively-oriented and more structured programs produced, in general, language and intellectual gains in

disadvantaged children greater than child-oriented programs. Structured programs, emphasizing language and cognitive development, showed more lasting gains in studies conducted by Karnes, Teska, and Hodgins (1970), Karnes (1968), Miller and Dyer (1970) and Bissell (1971). Stodolsky (1971, p. 16) suggested that gains of children in structured programs may be the result of a "well-defined treatment and (one) measuring the effects of a something that is specificable and largely the same for the participating children."

The most critical study evaluating the cognitive and affective gains made during the primary grades of selected children who had participated in either the first summer or full year Head Start program was the Westinghouse Report (Cicirelli, et al., 1969). The children were in the first, second, and third grades when testing was done in the fall of 1968. Standardized achievement tests plus personal-social development and school motivation measures were used. No differences on any measure at any grade between summer participants and nonparticipants were found; and although differences were found between Head Start children who attended a full year's program and nonparticipating children at the first grade level, no effects were found after the first grade. One very positive outcome of the Westinghouse Study showed up in the parents' tremendous approval of Head Start programs for their children. Obviously, they believed that both children and parents had benefitted greatly from all and whatever Head Start meant to them.

The critical evaluation of early Head Start efforts coupled with the 1966 Coleman Report (Smith, 1975, p. 156), which had concluded that "with the exception of the social class composition of the student body, variations in educational inputs bore little relation to variations in outcomes once the effect of family and background influences had been removed," encouraged skepticism regarding the worth of many educational programs,

including intervention programs. But there was another side of the evaluation results.

A review of the Westinghouse Study by Kean (1970, p. 449) suggested that the "statistics used in the analysis overpowered the data available." The major findings of the study were based on data collected from six instruments plus survey and interview data on nearly 2,000 children from 104 Head Start Centers across the country out of a population of almost 13,000 centers. Kean's (1970, p. 449) reactions were expressed as follows: "What was the value of asking how well children did in third grade when Head Start Centers in some cases were working with children who had never before held a crayon or a fork? How, indeed, could anyone have the audacity to suggest that he was really going to measure cognitive and affective development at the third-grade level?"

Kean (1970, pp. 450-451) gave scholarly credit to a well-conceived and well-executed study within the restrictions of an ex post facto design. However, he raised the following questions: (1) Was the study designed to answer political questions rather than educational questions? (2) Was there a hidden curriculum in many centers that resulted in objectives not measured by the report? (3) Were the "right" children included in Head Start programs? (4) What was the relationship of the nutritional component of Head Start to the outcome of intellectual and emotional development measured by the statistical analysis? (5) Could the interaction of Head Start with ESEA Title One Programs in some of the same areas have been responsible for some of the washout effects found in third grade children? Kean (1970, p. 451) further suggested that the most important questions to be asked might well be "how might the schools be different or whether the Head Start program should be considered successful and the school unsuccessful."

In an analysis of the Cicirelli et al., report, Smith and Bissell (1970) presented a comprehensive history of Head Start and of the national evaluation. They, too, raised serious questions about the sampling procedures used in the study and presented a reanalysis of the data which suggested that some of the full-year Head Start centers were effective. In these authors' judgements, stratified random sampling should have been used instead of simple random sampling. The varying characteristics of centers which Smith and Bissell believed related to their teaching effectiveness would have been considered through stratified random sampling procedures. They also expressed concern that more than half the centers refused to participate in the evaluation or were unqualified for participation. Equally important to the selection of the centers for evaluation was the selection of individual children. Smith and Bissell (1970, p. 74) point out the Westinghouse Report shows "large discrepancies between the Head Start and control intercorrelations" among socio-economic variables and achievement measures.

Their conclusions (Smith and Bissell, 1970, p. 97), based on statistical reanalysis of the Westinghouse Study data for first grade results of children who had been in Head Start for a full year, stated: "The intercorrelations among socio-economic and school readiness variables were very different for Head Start and control samples . . . (and) the Head Start group scored higher than the control group on the Metropolitan Readiness Test by a large enough margin for us to consider the differences 'educationally significant.'" Their final argument was for continued intervention into the elementary school years which, in effect, supported the recommendations of the Westinghouse Report for planned program variations and follow-up programs, with clearly defined goals and objectives that could be measured and evaluated, and characteristics of programs that could be replicated by other centers and schools.

Evaluation of longitudinal effects of early intervention programs on children's achievement in elementary school continued to present difficulties to evaluators of Head Start and Follow Through Planned Variation programs, as reported by Elmore, McDaniels, Datta, Smith, and Cohen in Rivlin and Timpane (1975). The Brookings Panel on Social Experimentation sponsored a conference of experts in the field of early education effectiveness for disadvantaged children in the spring of 1973. At that time, the fact remained that "definitive answers to questions about how best to improve the education of young children from deprived homes have not emerged from these programs . . . no model has come forth as robust in all or most situations (nor) does the analysis promise to yield definitive prescriptions" (Rivlin & Timpane, 1975, pp. 11-12).

Garry McDaniels (1975, pp. 52-53) summarized the problems in proving an educational model successful. The answers to how much difference should be expected at any given year between experimental program groups and nonexperimental groups depends upon how the measurements taken are interpreted and on the comparisons made with "clearly no best comparison and thus no best metric." He stressed the importance of a set of criteria for success but questioned the criteria; and he noted that "any field experiment is subject to a variety of influences that the experimenter cannot control," with the implication that evaluation of field experiments has been made most difficult under these givens.

Evaluation continued. Follow Through evaluations gave indication of persistent problems in carrying out meaningful, objective critiques of programs where even well-planned data collection procedures did not always "mesh" with the program objectives and implementation, therefore causing statistical analytic difficulties (Abt Associates, 1974-1976; SRI, 1974).

The Southwest Education Development Laboratory, from which Nedler initiated research in intervention strategies for Spanish speaking preschool age children, continued to study the longitudinal effects of its bilingual early childhood educational programs. Early findings indicated that the "educational disadvantage which the Mexican-American child exhibits is, in large, a language deficit and not a total intellectual deficit" and suggested that the findings supported "the need for additional study of the effects of alternate strategies designed to meet the needs of disadvantaged preschool children who speak a language that differs from that of the wider community" (Nedler, 1971, p. 266).

As those research projects from Austin were field-tested in public school classrooms during the 1971-1972 school year, the major findings of the evaluation study included the following gains (Southwest Educational Development Laboratory):

1. Children made significant gains between the pre and post tests on both the English and Spanish versions of the Auditory Test of Language Comprehension;
2. Children made significantly higher gains on a nonverbal measure of general intellectual development, the Raven Progressive Matrices, giving indications of superior perceptual and cognitive growth;
3. Seventy-five percent of the children successfully mastered the objectives of the visual, auditory, prewriting, and ideas and concepts elements of criterion-referenced tests;

Nedler, (1975, p. 482) reviewed the eight years of testing and development that had gone into a model program to teach English as a second language. From a naturalistic approach to a phonetic approach, from an adaptation of a programmed approach to a fourth approach

designed to develop the child's basic English vocabulary (after concepts included had been taught in Spanish) and to reach "certain related basic structures of the English language and deal only with English syntas," the research has continually studied improved ways of helping Spanish speaking children develop intellectually in an English-oriented school environment.

In another report from a planned bilingual program in the El Paso Public School District, where the intention was for all kindergartners and first graders to be bilingual by the 1973-1974 school year, the initial results of a study of second grade Mexican-American students showed that those children tested in Spanish performed better in English studies than their peers who had been instructed in English (Cross, & Bridgewater, 1973). The longitudinal effects of early bilingual education upon later elementary school achievement are not known as yet; however, there has been early indication that performance has increased when Spanish speaking children are taught in their own language first with English taught as a second language.

One of the most interesting and potentially valuable longitudinal effects studies underway at the present time is that funded by the Office of Child Development through the Education Commission of the States. A consortium of twelve principal investigators is engaged in "two interrelated efforts to provide better information on the actual effects of preschools on low income children: (1) pooling the original longitudinal data collected by the individual projects, and (2) collecting current year follow-up data from all projects in identical format for use in both pooled and separate analyses" (Murray, 1977, p. 3).

Chaired by Irving Lazar, the consortium members are: Kuno Beller, Martin Deutsch, Cynthia Deutsch, Ira Gordon, Susan Gray, Merle Karnes, Phyllis Levenstein, Louise Miller, Francis Palmer, David Weikart, Myron Woolman and Edward Zigler. The Murray study dealt primarily with the results of studying the effects of attending a preschool program or not attending one and emphasized the way in which family variables affect evaluations.

Of particular interest to the researcher or evaluation specialist is the consideration of home environment as it contributes to the school achievement of young children. For example, in the research efforts of Ira Gordon, significant influence from the home environment is indicated upon children's school achievement. Parents who participated with their children in a Home Learning Center program indicated a "change in the mother's perception of herself and her child, in her role as teacher of her child, and some change in the motivational as well as cognitive system of the child" (Guinagh & Gordon, 1976, p. 48). Participation in this program did make a difference in the school achievement of the children several years later. Although this research emphasized the involvement of parent and child in the home and did not stress a school program, it is clear that the attitude of the participating parents as compared with control group parents affected positively the academic attainments of the children when they entered public school.

In a study at the University of Florida, Hanes and Shea (1977) have shown direct relationship between the home environment and the predicted school achievement, especially in reading, of children in two of the Florida Parent Education Follow Through Model communities. Walberg and Marjoribanks (1976, p. 548) concluded from their studies of home environment contributions to cognitive gains in children in

school settings that " . . . family environment is an obvious correlate of the usual criterion tests" and suggested that " . . . family environment measures should be considered for inclusion in experimental and correlational studies of educational effects."

In the Murray paper (1977, p. 57), the conclusions of the analysis of the data from the study indicates "that for lower class populations, significant correlations exist between mother education, SES, family size, and birth order and IQ but these correlations appear to be weaker than they are for the general population." Murray (1977, p. 57) further concludes that there is "little evidence that preschools in general effect the correlations between these variables and IQ, although there are a few instances in which such effects appear for a particular preschool project."

What these recent studies of longitudinal effects of early intervention programs seem to suggest is that there may well be other variables to consider than just school achievement scores.

Summary

The literature indicates that legislation passed for financial support from the federal government gave impetus to the early intervention programs of the 1960's. The Economic Opportunity Act of 1964 provided opportunities for communities to direct attention to the educational concerns for disadvantaged preschool children through the initiation of Project Head Start. The Elementary and Secondary Act of 1965, and its amendment in 1966 to include monetary support for programs aimed at migrant workers' children, placed responsibility on individual state departments of education to plan and develop school programs that would promote success for the educationally disadvantaged. Without these two landmark pieces of legislation, it seems unlikely that

the implementation of intervention programs could have been undertaken in such large scale fashion.

Undoubtedly, the research of early childhood educators, psychologists, and child development specialists contributed greatly to the decision to begin such a large scale intervention into learning program. Hunt's work indicating that intelligence is directly related to experience and is not fixed nor predetermined along with Bloom's argument in favor of the importance of the early years for intellectual development supported other viewpoints suggesting that intervention into the disadvantaged child's early learning could increase cognitive and affective development in a child who might otherwise fail in the traditional educational process. There were other research efforts that resulted in conflicting beliefs as how best to intervene in the learning of young children. Bruner interpreted the structure of knowledge in such a way that he adopted a strong belief that there was nothing that could not be taught any child if taught at the child's particular developmental level. On the other hand, translations of Piaget's complex research writings evidenced his equally strong conviction that children must progress quite systematically through defined developmental states, that one stage led to the next, and that learning was best not pushed when a child was not yet ready for particular learning stages.

Such literature reflected the differing philosophical assumptions of educators as early intervention programs were designed and implemented. These differences varied from traditional child-oriented programs to highly structured cognitive and behavioral programs to nonclassroom home involvement programs. Such varying positions served as underpinnings for the interventions that were designed. One fact was clear: the provision

of quality learning experiences for disadvantaged children was intended to compensate for basic lacks in children's environments and attempts were made to develop programs to prevent the cumulative deficits that helped create the failure of many children to achieve in public schools.

The research efforts of Nedler at the Southwest Educational Development Laboratory in bilingual education for young children was also underway at the time of intervention program direction. The acceptance of the Spanish speaking child's home language and the teaching of basic concepts in Spanish before teaching in English was demonstrating initial achievement gains for the children in these programs. However, like all of the intervention programs regardless of philosophical bent and implementation procedures, immediate gains were evidenced but longitudinal effects are still cautiously interpreted at the time of this present study.

Individual research projects, such as those of Weikart, Karnes, Bereiter-Englemann, Gordon, Nimnicht and others demonstrated gains in children beyond the short-term program. However, the Westinghouse Report on the longitudinal evaluation of the field-based, nonexperimental Head Start program caused considerable debate. Short-term gains were reported, but those gains appeared to washout completely after first grade--a disappointing result for those who had perhaps expected more than was possible under the early implementation of that program. The most promising results of the Cicirelli evaluation were the recommendations for Planned Variation Head Start, the opportunity to compare varying early intervention program implementations to attempt to determine the best means of intervention, and Planned Variation Follow Through, the opportunity to follow through early elementary grades with the same intervention models as Head Start.

A scarcity of studies evaluating the longitudinal effects of early intervention programs upon migrant children was discovered by the investigator. Perhaps this is partly explained by the problems inherent in conducting such studies: the mobility of the children's families, the bilingual-bicultural nature of the Mexican-American family and its children, the lack of controlled evaluation procedures planned into the program design and implementation. Thus it would appear that there is a definite need for conducting further studies to help determine the impact of field-based intervention programs for Spanish speaking migrant children.

CHAPTER III

DESIGN AND METHODOLOGY

The procedures followed in this study were those of "controlled inquiry" (Kerlinger, 1973, p. 392), rather than true experimentation. A quasi-experimental design, combining a multiple time-series design and a pretest-posttest comparison group procedure, was used.

Riecken and Boruch (1974, p. 116) have described the problems inherent in nontrue experimental designs, but suggested that the multiple time-series and pretest-posttest comparison group design in combination makes possible "hardheaded evaluation" when experimental control is not available. Popham (1975, p. 213) stated that the advantage of the time-series design is "that it provides a post hoc tool to evaluate educational interventions for which no comparison-group contract was preplanned". Messick and Barrows (1972, p. 276) wrote that the "power of this design [nonequivalent control-group pretest-posttest procedure] is increased substantially if it is extended to a multiple time-series having repeated measurement of the two groups over time". Kerlinger (1973, pp. 341-346) further supported this compromise design: a longitudinal time design and a compromise experimental group-control design. The results from combining these two designs can be interpreted with caution when a true experimental approach to a study is not possible.

In selecting this combination of designs, the investigator did so with the following considerations: (1) pretests, given in kindergarten

to both the program and comparison group, would initiate the evaluation study of school achievement--recognizing that a pretest after an original treatment (the preschool intervention program) covaries out some of the treatment effect; (2) treatment would be understood to be those learning experiences planned through the regular school curriculum and provided each group of children during each school year from kindergarten through third grade; (3) achievement tests, given the children at each grade level would be used for evaluation of school performance each year; (4) the final posttest would be those tests given at the third grade level; and (5) the number of children retained at grade level by the end of third grade would give further indication of school performance.

Although this evaluation study did not provide for a controlled and predetermined experimental treatment at intermittent time periods, the consideration of on-going school learning experiences and opportunities along with periodic measurement processes seemed to satisfy the requirements for a modification of the multiple-time series design suggested in Campbell and Stanley (1966, pp. 37-45). The use of pretest-posttest measurements with a comparison group satisfied the conditions required for the nonequivalent control group design (Campbell & Stanley, 1966, pp. 47-50).

Campbell and Stanley (1966, p. 40) forewarned of potential sources of invalidity for quasi-experimental designs. In combining these two designs, there is some indication that the various sources of experimental error, especially threats to internal validity, can be reduced to a minimum. History, as a source of internal validity in the multiple time-series design, is controlled for by the comparison group being added. The possibility of instrumentation being a threat to internal

validity in the time-series design is controlled for through the combining of the comparison group design, and the interaction of selection and maturation of subjects in the comparison group design is more adequately controlled for in combination with the time-series design.

The effects of history and maturation are considered as occurring within each of the groups over the same period of time, the four years including kindergarten through third grade years. Although the subjects from the intervention program group were given the Preschool Inventory (Caldwell, 1967) in May of 1971, it was doubtful that the effects of such pretesting at that time would present a threat to test-retest validity potential a year and a half later when the same test was administered at the beginning of kindergarten to both groups.

The effect of instrumentation on internal validity was controlled for with tests given to subjects during the same period of time and in the same testing environment. The exception to this was in the case of make-up tests given to a single subject; this occurred only in two or three instances, according to the school records. Neither the program group nor the comparison group was selected on the basis of test criteria.

Mortality was not controlled for in as much as only twenty of the twenty-six Mexican-American children from the preschool intervention group were enrolled in Hardee County schools from kindergarten through third grade. There was no way of knowing how the absence of those six subjects contributed to the differences in group means on tests.

The variables of teacher selection and teacher-student interaction that might have had direct effect on the subjects' school achievement were among those variables in this evaluation for which there were no

controls. Selection of tests to measure specific program criteria was another uncontrolled factor. These are all recognized as problems inherent in non-true experimental designs and will be dealt with accordingly in a cautious interpretation of the results of this evaluation.

Subject Selection Procedures

Two groups of subjects were used in this study: the preschool intervention program group and a comparison group. Twenty-two of the twenty-eight children who were enrolled for the entire original pilot program were still attending school in Hardee County through the 1975-1976 school year. Because it was the intent of this study to evaluate the program's effects on the school achievement of the Mexican-American children from the program, two of the twenty-two were excluded from the study on the basis of race: one black, and one white.

The comparison group was selected from enrollment registration lists for the kindergarten year, 1972-1973, when the program group entered kindergarten. The forty-eight Spanish surnamed children who entered kindergarten that fall were then checked for present enrollment in that county school system. Excluding the intervention program children, fourteen children were available for the comparison group composite. Families were contacted for permission for the children to be included in the study. Permission was granted by all fourteen families for the investigator to have access to school records necessary for data collection.

When the two groups were studied for demographic comparisons, the similarity between the two groups was much greater than might have been expected. School records did not provide some of the information needed

for statistical analysis of the data; nor was the information contained in cumulative records about the families precise enough for true analysis of demographic data. Moreover, some of the information obtained came from self-report of parents visited by the investigator, from direct observation of the investigator in visiting the migrant communities, and from the verbal reports of those schools personnel who know the families well. These observations, verbal reports, and what recorded data were available served as the basis for the following demographic comparisons to be made.

All children fell within the Florida kindergarten entrance age, from four years, nine months (the youngest) to five years, eight months (the oldest) with the majority between four years, ten months and five years, four months. There were a total of seventeen males and seventeen females, with the program group having a ratio of twelve males to eight females and the comparison group five males to nine females.

Spanish is the native home language for all of the families. It is the language used for family communication as well as the social language between friends. Although some of the parents understand and are able to use English when necessary, they choose to speak Spanish in their home environment. Most of the children find little reinforcement at home for the English used in school. In those homes where limited English is spoken along with the Spanish, children use the hybrid language, "Spanglish."

The migrant population, as defined by the United States Office of Education, are those agricultural workers who move across county or state lines for the purpose of seeking work or who have so moved for employment reasons within the last five years. Many of the families of

children in both groups are either presently in the interstate or intrastate migrant stream. Some of the families in each group are becoming "resident" migrant--they now live more permanently in the area although their work continues to be that of the migrant laborer. Few of the families have been out of the migrant population as defined by state and federal criteria for more than two or three years; this number may be three or four such families.

The employment level of the fathers of each group of subjects is, for the most part, that of unskilled labor in the citrus groves, vegetable fields, or in packing plants. Three fathers, two of program children and one of a child in the comparison group, are skilled laborers. A relatively equal number of mothers work from each group; about the same proportion of mothers are unemployed and are listed in school records as housewives. Twelve mothers, seven from the program group and five from the comparison group, did not have employment status listed in school records. Information provided by school paraprofessionals knowing these families suggested that some of these mothers work at times, but not necessarily all of the time.

As might be expected from the employment level of the adult family members, the educational level of the parents is quite low. This information is not contained in school records. However, from self-report and from information given by school personnel, it is safe to assume that not more than two or three parents have high school education. Most of them have less than eighth grade schooling with some of the parents having attended only sporadically for three or four years.

Families live in either rented trailers or small houses available for migrant workers near the groves and in migrant worker communities.

Some families live in or very near the three small towns in the county in similar rental housing or, in a few instances, in trailers or houses of their own.

The number of children in the families was also noted. In the program group, ten families have between one and three children and ten families have between four and eight children. In the comparison group, four families have between one and three children with ten families having between four and eight children. Within the program group, five children were the oldest, four were the youngest, and two were only children; in the comparison group, three were the oldest, four were the youngest, and there were no only children.

From the demographic data, it was evident that the comparison group shared very similar home environments with the program group. This finding was important since there were no other children from which to select a comparison group who entered kindergarten in the fall of 1972, who were of Mexican-American background, who had Spanish as the home language, and who were in school in Hardee County, Florida, at the time of this study.

Instrumentation

The instruments used in the study were those tests given to children in Hardee County's elementary schools. They were the measures used to determine, in part, school success from an achievement point of view for all children.

During the 1972-73 through 1975-76 school years, with which this study is concerned, the following tests were administered in the fall and in the spring and within two week intervals: the Preschool Inventory (Caldwell, 1967) upon entrance into kindergarten, followed by the

Metropolitan Readiness Test, Form B (MRT-B) (Hildreth, Griffiths, & McGauvran, 1969) in the spring of that year; Form A of the MRT in the fall of first grade and, in some instances, the Metropolitan Achievement Test (MAT) (1971) or the Comprehensive Test of Basic Skills (CTBS) (1973) at the end of first grade. In second and third grades, children were given the Florida Statewide Assessment Test (Testing Division, State Department of Education, Florida) for math and communication skills achievement in the fall of the year.

The Caldwell Preschool Inventory is an instrument designed to be administered to individual children between three and six years old. This instrument was developed by Bettye Caldwell during the early summer weeks of the 1965 Head Start programs to provide an assessment of achievement in those areas regarded as important and necessary for school success. Although the Preschool Inventory was not developed as a test of basic intelligence, it contains items for assessment that are correlated with performance on intelligence tests. The instrument's goals are to assess the degree of disadvantage which children from educationally and socially-economic disadvantaged home environments have when entering school. Expectations are that these observed deficits can be eliminated or reduced during the school experience and therefore show changes associated with educational intervention in a pretest-posttest measurement (Preschool Inventory Handbook, 1970).

The screening instrument was field-tested nationally during the first Head Start summer and preliminary standardization determined. On measures of internal consistency, the reliability coefficients for the total sample used for standardization were .91 on the Kuder-Richardson

(KR20) coefficient and .92 on the corrected split-half coefficient. The test is a relatively difficult test for all age groups with the mean for the percent of number of items ranging from 25.6 at the youngest age group to 42.4 for the oldest age group. The standard error of measurement is from 3.1 to 3.9 in the standardized sample (Preschool Inventory Handbook, 1970, pp. 20-22).

The MRT was designed to measure the extent to which beginning school children have developed skills and abilities that contribute to first-grade instructional readiness. It serves to assist teachers in classifying children as to the particular help and attention they may need in further development of skills necessary for language attainment, visual and auditory perception, number knowledge, motor skills and muscular coordination, and the ability to attend and follow directions. This test has been standardized with the predictive validity of the MRT across groups estimated at .60, a value considered very good for test results for five and six-year old children taking their first group-administered test (Hildreth et al, 1969, pp. 27-28). The Manual further indicated that the split-half value ranged from .90 to .95 with the measurement error of an individual total score ranging from three to five points.

The CTBS is intended to be given students who have been taught according to differing instructional approaches with the aim of measuring those academic skills common to all curricula (CTBS Examiner's Manual, 1974). A total battery score is produced on subtests measuring reading, language, and math concepts with science and social studies added to the higher levels of the test batteries. All of the items on the battery met the content criteria for the test; an appropriate level of difficulty for the grades for which they were intended was determined;

and they had point-biserial correlation coefficients greater than .20. CTBS was standardized on a large national sample of students from kindergarten through grade twelve, randomly selected from all parts of the United States in 1972-1973 (CTBS Examiner's Manual, 1974, p. 2).

The Florida Statewide Assessment Test for third grade students was designed to "measure specific educational objectives which identify the skills Florida students should achieve from their educational experience" (Department of Education, State of Florida, 1975, p. iii). Following the procedure established for a Statewide Assessment Program under the Educational Accountability Act of 1971, objectives, chosen by teachers and educators throughout the state, identified a number of reading-related and math-related skills. Achievement of the objectives is measured through objective-referenced tests with each objective measured by one or more items. Furthermore, the Florida Assessment Test is weighted for school districts and individual schools within each district on five nonschool factors related to student test performance: income of families, minority group membership, occupation of parent, college education attainment of parent, and Spanish as the family native language. A predicted range for scores is assigned to the school with observed school scores and individual scores used in comparison. This test is in the process of validation.

Data Selection by the Investigator

In studying the school records, it was evident that children were absent sometimes at the administration of various tests; and, although make-up tests were given in a few cases, this apparently was not always possible or practical as evidenced by the absence of many scores for data analysis. The three schools did not use the same tests each year and in instances where children changed schools during the year, the test data reflected this.

It was necessary for the investigator to determine which test scores to use in the data analysis so that the largest number of subjects would be represented by the achievement results and at the same testing period each year. Although the Bianchini and Loret Anchor Test Study (Linn, 1975) has provided means for converting eight different achievement test scores to a similar score scale for fourth, fifth and sixth grade levels, there is no procedure for converting test scores to a single score scale for lower elementary grade levels. It was the decision of the investigator to analyze the data from the fall testing periods, the most consistent testing time for the most subjects in this study.

Data from the kindergarten entrance scores on the Caldwell Preschool Inventory were analyzed using the total raw scores. The Handbook for the Preschool Inventory (1970) does not recommend that subtest scores be routinely obtained for all children given this test. On the basis of this recommendation, it was decided to analyze the total raw score data.

The fall scores on the MRT-A given to first graders were analyzed, also using total raw scores. The decision for using total raw scores was made on basis of the "total score (numbers and copying also included) providing a slightly better prediction of reading and spelling than do the four Readiness tests which might appear to be more directly related to such learning" (Hildreth, Griffiths & McGauvran, 1969, p. 17).

The CTBS total battery was analyzed for both second and third grade subjects. The subtest scores for language were analyzed separately because of the emphasis placed on language development in the preschool program. It was of interest to the investigator to determine whether or not the language component of the intervention program would appear

to have a relationship to second and third grade language achievement. The raw scores were converted to standard scale scores to enable analysis of data when different levels of the test had been given to different children in the same grade. This is a procedure recommended in the CTBS Examiner's Manual, Expanded Edition (1974).

The communication skills subtest of the Florida Statewide Assessment Test for third grade students was also included in the analytic processes. Again, the language area was of particular interest to this study because of the preschool program emphasis on language development. These five tests were those given to the largest number of subjects from each of the two groups at the same testing period. The dependent variables were analyzed in relationship to the independent variable, group membership.

The computing services available to the University of Florida through the Northeast Regional Data Center were used for a one-way analysis of variance procedure for each of the dependent variables analyzed in relationship to the independent variable - group means for each of the tests at each grade level analyzed in relationship to group membership. The statistical package program, SPSS (Nie, Hull, Jenkins, Steinbrenner, Bent, 1975) was used. F ratios were converted to t scores at the $\alpha=.05$ level for a one-tailed test (Roscoe, 1975, p. 288).

The \bar{z} ratio for independent proportions was used to analyze the data pertaining to the number of subjects from each group retained at grade level by the end of third grade as compared to those from each group who were promoted. This is a procedure recommended for determining a difference between uncorrelated proportions (Guilford & Fruchter, 1973, p. 162).

Attendance was studied, but no statistical analysis of the data was made. Information available from cumulative records of the subjects

was not detailed enough to enable statistical analysis. The information available will be reported in narrative fashion.

Statement of the Null Hypothesis for Statistical Analysis

To answer the research question as to whether or not the intervention program evidenced longitudinal effects on the school achievement of participating children, the predictive hypotheses were restated in null hypothesis form for the purpose of statistical analysis of data.

1. The group mean for the preschool intervention group on the Preschool Inventory given at entrance into kindergarten will be equal or less than the group mean for the comparison group.
2. The group mean for the preschool intervention group on the MRT-A given in first grade will be equal to or less than the group mean for the comparison group.
3. The group mean for the preschool intervention group on the CTBS total battery given at second grade will be equal to or less than the group mean for the comparison group.
4. The group mean for the preschool intervention group on the language component of the CTBS given at second grade will be equal to or less than the group mean for the comparison group.
5. The group mean for the preschool intervention group on the CTBS total battery at third grade will be equal to or less than the group mean for the comparison group.
6. The group mean for the preschool intervention group on the language component of the CTBS given at third grade will be equal to or less than the group mean for the comparison group.

7. The group mean for the preschool intervention group on the communication skills subtest of the Florida Statewide Assessment Test at third grade will be equal to or less than the group mean for the comparison group.
8. The number of children in the preschool intervention group retained at a grade level by the end of third grade will be equal to or more than the number of children retained from the comparison group.

Summary of the Design and Methodology

To make possible the evaluation of the longitudinal effects of a preschool intervention program for three-year old Mexican-American migrant children upon their school achievement from kindergarten through third grade, a quasi-experimental post hoc procedure was used. The study design combined a multiple time-series design and a nonequivalent control-group pretest-posttest procedure, with the comparison group selected to attain the greatest similarity possible.

Conventional analytic techniques were used in studying the relationship of the independent variables, scores on each of the tests at each grade level, to the dependent variable, group membership as represented by the program group and the comparison group. The conversion of F ratios to t scores was used for the one-tailed test at the .05 level of significance in a one-way analysis of variance procedure. The \bar{z} ratio for independent proportions was used to determine the difference between the number of subjects in each group retained at grade level by the end of third grade.

CHAPTER IV

RESULTS OF THE STUDY

The purpose of this study was to evaluate the longitudinal effects of a preschool intervention program in Hardee County, Florida, on the school performance of Mexican-American children in the primary grades. The twenty Mexican-American children from the original intervention program who were still attending school in that county through third grade were considered members of the program group. Fourteen Mexican-American migrant children who entered kindergarten in the fall of 1972 at the same time as the program subjects comprised the comparison group.

In ex post facto quasi-experimental studies, where a control group is not planned a priori, there is a risk of selecting a nonequivalent comparison group. The comparison group for this study was scrutinized carefully to determine similarity to the original program group. When comparisons were made on the basis of the employment and educational levels of parents, the number of children in the family and birth order, the migrant status of families, age and entrance into public school, and Spanish as the home language, the two groups were found to be homogeneous in terms of home environment conditions that might contribute to any differences in achievement scores found in the assessments made at each grade level. It was assumed that differences in the two groups would result from attending or not attending the preschool intervention program.

Data were collected from public school records on assessment measures used in that county school system to determine school success of children from kindergarten entrance through third grade. Although there were thirty-four subjects in the combined groups, the number of subjects for whom scores were recorded in school records varied due to late enrollment, absence from school at the time of the testing program, or because subjects had not been administered the same tests. Each test result reflected these differences in total number of scores recorded and is reported in each data analysis.

The results of the data analyses for testing each of the null hypotheses related to the research question are reported in the following sections.

Test of the First Hypothesis: The group mean for the preschool intervention group on the Preschool Inventory given at entrance into kindergarten will be equal to or less than the group mean for the comparison group.

A one-way analysis of variance procedure was used to test this null hypothesis. In a two-sample situation, this statistical procedure is mathematically equivalent to the t test (Roscoe, 1975, p. 292). Converting the F ratio to a t score for a one-tailed test (Roscoe, 1975, p. 288), the computed t of 2.1897 was found to be significant at $\alpha = .05$ level. Group means and standard deviations, using raw score totals, are shown in Table 1 along with the computed t score.

Table 1

MEANS AND STANDARD DEVIATIONS FOR THE PROGRAM GROUP AND THE COMPARISON GROUP ON THE PRESCHOOL INVENTORY AT KINDERGARTEN ENTRANCE

GROUP	NUMBER	MEAN	STANDARD DEVIATION	t SCORE
Program	12	37.0000	9.8719	2.1897*
Comparison	5	25.0000	11.5798	

*Significant at $p \leq .05$

On the basis of this statistical analysis, the null hypothesis was rejected; the program intervention subjects scored higher on the Preschool Inventory than the comparison group subjects. The Preschool Inventory Handbook (1970, p. 4) stated that the Inventory was developed as "an instrument that was sensitive to experiences and could thus be used to demonstrate changes associated with education intervention." The educational significance of the difference in the test means between the two groups lies in the assumption that the preschool intervention program provided educational experiences for that group of children which evidenced increased readiness for kindergarten.

Test of the Second Hypothesis: The group mean for the preschool intervention group on the MRT-A given in first grade will be equal to or less than the group mean for the comparison group.

A one-way analysis of variance procedure was used to test this null hypothesis as in the previous data analysis. Again, the F ratio provided with this analytic technique was converted to a t score for a one-tailed test of significance. Means and standard deviations for raw score totals along with the t score at the $\alpha = .05$ level are shown in Table 2.

TABLE 2

MEANS AND STANDARD DEVIATIONS ON RAW SCORE TOTALS FOR
THE METROPOLITAN READINESS TEST, FORM A, AT THE FIRST
GRADE FOR THE PROGRAM AND COMPARISON GROUPS

GROUP	NUMBER	MEAN	STANDARD DEVIATION	t SCORE
Program	17	53.2941	11.7035	1.7306*
Comparison	11	44.0000	16.7809	

*Significant at $p \leq .05$

The null hypothesis was rejected; the program intervention group scored statistically significantly higher on the MRT-A in the fall of first grade.

The MRT provides for an interpretation of scores by converting the total scores to letter ratings on a five-point scale, from A (high) to E (low). The significance of this "readiness status" by letter rating is to enable teachers "to group pupils into five readiness levels for the provision of instruction best suited to the present status of each group" (Hildreth, Griffiths, & McGauvran, 1969, p. 11). These predictive characteristics of the MRT indicated that thirteen of the seventeen program group subjects fell in the B and C letter rating, suggesting average to high normal readiness status. Four program subjects were viewed as being likely to have difficulty in first grade work as evidenced from a letter rating of D, low normal readiness status. In the comparison group, six of the eleven subjects were in the B and C rating for readiness with five subjects in the D and E letter rating, low to low normal readiness status. These letter ratings for readiness status indicated support for the statistical analysis which rejected the null hypothesis.

Test of the Third Hypothesis: The group mean for the preschool intervention group on CTBS total battery given at second grade will be equal to or less than the group mean for the comparison group.

Raw scores on this test battery were converted to expanded standard scale scores so that different levels of the CTBS could be equated (CTBS Examiner's Manual, Expanded Edition, 1974, p. 74). The total battery was comprised of scores from math, reading, and language subtests. Analysis was made with a one-way analysis of variance procedure as in the previous analytic procedures.

Although there was a mean difference of 19.1190 between the total battery scores of two groups, it was not statistically significant at the $\alpha = .05$ level. The null hypothesis that the program group would score equal to or less than the comparison group was retained. The means and standard deviations for test scores in this analysis are shown in Table 3.

TABLE 3

MEANS AND STANDARD DEVIATIONS FOR EXPANDED STANDARD SCALE
SCORES ON THE TOTAL BATTERY, COMPREHENSIVE TEST OF BASIC SKILLS,
FOR SECOND GRADE FOR THE PROGRAM AND COMPARISON GROUPS

GROUP	NUMBER	MEAN	STANDARD DEVIATION	t SCORE
Program	18	168.8333	41.4165	1.1392 (n.s.)
Comparison	7	149.7143	24.0745	

It should be pointed out that four of the comparison subjects for whom scores were analyzed at the first grade level were retained at that grade and were not included in the second grade test analysis.

Test of the Fourth Hypothesis: The group mean for the preschool intervention group on the language component of the CTBS given at second grade will be equal to or less than the group mean for the comparison group.

The mean difference of 34.6587 on the language component of the CTBS battery was found statistically significant at the $\alpha = .05$ level for a one-tailed test using the one-way analysis of variance procedure with the F ratio converted to a t score. Means and standard deviations for these data are shown in Table 4.

TABLE 4

MEANS AND STANDARD DEVIATIONS FOR EXPANDED STANDARD SCALE SCORES ON THE LANGUAGE COMPONENT, COMPREHENSIVE TEST OF BASIC SKILLS, FOR SECOND GRADE FOR THE PROGRAM AND COMPARISON GROUPS

GROUP	NUMBER	MEAN	STANDARD DEVIATION	t SCORE
Program	18	247.94444	42.8671	1.8365*
Comparison	7	213.2857	40.9094	

*Significant at $p \leq .05$

The null hypothesis was rejected; the program subjects scored higher on the language subtest of the CTBS than the comparison group. Even though the null hypothesis that the program group would do equally well or less well on the total CTBS battery than the comparison group was retained, the rejection of this fourth hypothesis seemed to have educational significance. It appeared that the program subjects were better able to use the language necessitated for this grade level achievement test than the comparison group.

Test of the Fifth Hypothesis: The group mean for the preschool intervention group on the CTBS total battery at third grade

Test of the Fifth Hypothesis (cont.): will be equal to or less than the group mean for the comparison group.

The same statistical procedure was followed for analysing these data as for previous data. Expanded standard scale scores were used so that different levels of the CTBS could be equated. The null hypothesis was retained when the analysis showed no statistically significant difference between the mean scores of the two groups on the total test battery.

The means and standard deviations are shown in Table 5.

TABLE 5

MEANS AND STANDARD DEVIATIONS FOR EXPANDED STANDARD SCALE SCORES ON THE TOTAL BATTERY, COMPREHENSIVE TEST OF BASIC SKILLS, FOR THIRD GRADE FOR THE PROGRAM AND COMPREHENSIVE GROUPS

GROUP	NUMBER	MEAN	STANDARD DEVIATION	t SCORE
Program	14	215.1429	52.3110	0.4037 (n.s.)
Comparison	7	224.2857	40.7870	

Test of Sixth Hypothesis: The group mean for the preschool intervention group on the language component of the CTBS given at third grade will be equal or less than the group mean for the comparison group.

Means and standard deviations for the language component scores on the CTBS are shown in Table 6. A one-way analysis of variance procedure was used for these data and, with the results of the analysis, the null hypothesis was retained at the .05 level of significance.

TABLE 6

MEANS AND STANDARD DEVIATIONS FOR EXPANDED STANDARD SCALE
SCORES ON THE LANGUAGE COMPONENT, COMPREHENSIVE TEST OF BASIC
SKILLS, FOR THIRD GRADE FOR THE PROGRAM AND COMPARISON GROUPS

GROUP	NUMBER	MEAN	STANDARD DEVIATION	t SCORE
Program	14	276.2856	62.9517	0.1483 (n.s.)
Comparison	7	280.2856	43.8665	

It is at this analytic step that the two group means show no statistically significant differences on any measure at a grade level--the total battery scores and the language subtest scores on the third grade CTBS. Although it should be pointed out once more that the four comparison children retained at first grade were not included in these test results, the same children taking the second grade test from the comparison group were those taking the third grade test. With this in mind, it appears that any effect of the preschool intervention program on school performance at third grade had washed out so that the comparison group had now caught up with the program group.

Test of the Seventh Hypothesis: The group mean for the preschool intervention group on the communication skills subtest of the Florida Statewide Assessment Test at third grade will be equal to or less than the group mean for the comparison group.

The communication skills subtest of the Florida Statewide Assessment Test at third grade was the final test to be analyzed. Again, the one-way analysis of variance procedure was used for data analysis, converting the F ratio to a t score for a one-tailed test. The equality of school achievement in this area for both groups in third grade was confirmed with the results shown in Table 7. The null hypothesis was retained at the $\alpha = .05$ level.

TABLE 7

MEANS AND STANDARD DEVIATIONS FOR RAW SCORES ON THE COMMUNICATION
SKILLS COMPONENT OF THE FLORIDA STATEWIDE ASSESSMENT TEST FOR
THE PROGRAM AND COMPARISON GROUPS AT THIRD GRADE

GROUP	NUMBER	MEAN	STANDARD DEVIATION	t SCORE
Program	11	71.0000	16.1555	0.1303 (n.s.)
Comparison	8	72.0000	17.5255	

Test of the Eighth Hypothesis: The number of children in the preschool intervention group retained at a grade level by the end of third grade will be equal to or more than the number of children retained from the comparison group.

To test this final hypothesis, the \bar{z} ratio for independent proportions was used to analyze the data. Of the twenty program subjects, one was retained in first grade and one at the end of third grade. Of the fourteen comparison subjects in the study, three were retained at first grade, one was assigned to a special education classroom and two were retained at the end of third grade. The results of the analytic procedure are shown in Table 8, with the rejection of the null hypothesis at the $\alpha = .05$ level.

TABLE 8

COMPARISON OF SUBJECTS RETAINED OR PROMOTED
AT THE END OF THIRD GRADE FROM EACH OF THE
TWO GROUPS

	PROMOTED	RETAINED
Program Group*	18	2
Comparison Group	8	6 (including one subject assigned to special education)

*Significant: $\bar{z} = -2.231$, $p > .05$

Consideration of Attendance During First, Second, and Third Grade for Both Groups

No statistical analysis was made on the attendance factor as related to school performance. The data available and collected from school records, indicating the number of weeks children were enrolled and the number of days absent during the year, was not sufficient for statistical analysis. However, there were interesting observations to be seen from some of the data recorded in cumulative records.

Days absent for program subjects ranged from 0 to 41 days in first grade; from 0 to 31 days in second; from 0 to 21 days in third. A total of nine different children in this group entered school late or exited early during those three years, thereby being enrolled for less than the 36 weeks of the school year. The number of weeks enrolled for program group subjects were 12, 22, 24, 30, 31, 33, 35, and the full 36 weeks.

Days absent for comparison group subjects ranged from 1 to 22 days in first grade; from 1 to 22 days in second; from 0 to 32 days in third grade. A total of seven different children in this group entered school late or existed early during the three year period. The number of weeks enrolled for the comparison group subjects were 9, 18, 24, 26, 27, 30, 34, 25, and the full 36 weeks. The subjects retained at first grade were not included in the second and third grade information on attendance since their records were not used for test data collection after first grade.

Certainly the mobility of the migrant family is substantiated in these data. The pattern of absenteeism reinforced the concern expressed by county school personnel for the success of migrant children in that school system. The expectation that both groups of children would evidence the same enrollment and absenteeism patterns was substantiated with the attendance information presented here.

Consideration of the Research Question

It is evident from the statistical analyses of the data used in this study that the subjects from the preschool intervention program scored higher on standardized tests at the entrance into kindergarten, and in the fall of first grade, as well as on the language component of the CTBS in second grade. Although there were no statistically significant differences between the program group and the comparison group on the tests given at the third grade level, the number of program children promoted by the end of third grade as contrasted to the number of comparison children promoted by the same time was statistically significant in favor of the program group. With these considerations, the judgement of the investigator is that the preschool intervention program did contribute positively to the school achievement of the Mexican-American children who participated in that program. The contributions of the program appeared to be in the area of language development, evidenced not only in the language component of the second grade CTBS but also in the first grade MRT which has a strong emphasis on language skills for reading readiness. A full discussion of the educational significance of the statistical findings of this study is found in the following chapter.

Summary of the Results of the Study

The statistical analyses of data for each grade level, comparing the program intervention group and the comparison group, provided the investigator with evidence for the rejection or retention of each null hypothesis. This information is summarized as follows:

1. The null hypothesis that the group mean for the preschool intervention group on the Preschool Inventory given at entrance into kindergarten will be equal to or less than the group mean for the comparison group was rejected.

2. The null hypothesis that the group mean for the preschool intervention group on the MRT-A given in first grade will be equal to or less than the group mean for the comparison group was rejected.
3. The null hypothesis that the group mean for the preschool intervention group on the CTBS total battery given at second grade will be equal to or less than the group mean for the comparison group was retained.
4. The null hypothesis that the group mean for the preschool intervention group on the language component of the CTBS given at second grade will be equal to or less than the group mean for the comparison group was rejected.
5. The null hypothesis that the group mean for the preschool intervention group on the CTBS total battery given at third grade will be equal to or less than the group mean for the comparison group was retained.
6. The null hypothesis that the group mean for the preschool intervention group on the language component of the CTBS given at third grade will be equal to or less than the group mean for the comparison group was retained.
7. The null hypothesis that the group mean for the preschool intervention group on the communication skills subtest of the Florida Statewide Assessment Test at third grade will be equal to or less than the group mean for the comparison group was retained.
8. The null hypothesis that the number of children in the preschool intervention group retained at a grade level by the end of third grade will be equal to or more than the number of children retained from the comparison group was rejected.

The findings supported the conclusion that the preschool intervention program contributed in positive ways to the school achievement of the participating Mexican-American children even though the statistical evidence is not powerful in its entirety.

CHAPTER V
SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary

In the late fall of 1970, this investigator was asked to design an educational curriculum for a pilot program for three-year old migrant children in Hardee County, Florida. The preschool intervention program, operational from January 1971 through May 1971, was sponsored by the Institute for Development of Human Resources, University of Florida, in cooperation with the public schools of that county and funded by the Migrant Section of the State Department of Education.

The purpose of the present study was to evaluate the longitudinal effects of the preschool intervention program on the school achievement from kindergarten through third grade of the Mexican-American migrant children who participated in the early childhood program. Twenty children of Mexican-American backgrounds from the original program were enrolled in school in Hardee County at the time of the study. Fourteen other Mexican-American children who entered kindergarten at the same time as the program group, in the fall of 1972, were selected for an ex post facto comparison group.

School records for the total thirty-four subjects were studied as sources of data from which the evaluation of school achievement was made. Scores from standardized tests, adopted by the school system and given in the fall of each grade level year, were used as measures of school

achievement. Each of the scores for the two groups of subjects were analyzed with a one-way analysis of variance procedure, converting F ratios to t scores at the .05 level of significance for a one-tailed test. The \bar{z} ratio for independent proportions was used to analyze the data comparing the number of subjects from each group retained at grade level by the end of third grade. Attendance and enrollment data were studied but with no statistical analysis made of the data in relationship to school achievement. From the analysis of all data, the following results were obtained:

1. The program intervention group scored significantly higher on the Preschool Inventory at entrance into kindergarten than the comparison group.
2. The program intervention group scored significantly higher on the Metropolitan Readiness Test, form A, in the fall of first grade than the comparison group.
3. There was no statistically significant difference between the two groups in mean scores for the total battery, Comprehensive Test of Basic Skills, given in the fall of second grade.
4. The program intervention group scored significantly higher on the language component of the Comprehensive Test of Basic Skills in the fall of second grade than the comparison group.
5. There was no statistically significant difference between the two groups in mean scores for the total battery, Comprehensive Test of Basic Skills, given in the fall of third grade.
6. There was no statistically significant difference between the two groups in mean scores for the language component, Comprehensive Test of Basic Skills, given in the fall of third grade.

7. There was no statistically significant difference between the two groups in mean scores for the communication skills component of the Florida Statewide Assessment Test given in the fall of third grade.
8. The program intervention group had significantly fewer subjects retained at grade level by the end of third grade than the comparison group.

Although the longitudinal gains in achievement evidenced "wash-out" by the fall of third grade for the program group, it was apparent that the preschool intervention program did have a positive effect into second grade. The number of subjects retained at grade level by the end of third grade for each group was significantly different in favor of the program group. The educational significance of these statistical findings are discussed in the following section to provide a basis for the professional judgement of the investigator that the preschool intervention program contributed in positive ways to the school achievement of the Mexican-American migrant children who attended the program and who were studied in this evaluation.

Discussion

This study has been one of controlled inquiry rather than true experimentation. Post hoc studies can only be made with clear understanding of the lack of those controls that limit investigation to a quasi-experimental design and therefore to systematic scrutiny of the available data for conceptualization of findings rather than just statistical analyses considered. Nonrandomization of subjects, an ex post facto comparison group, lack of control for instrumentation, noncontrol for teacher-student-classroom interaction all contributed to the evaluation difficulties inherent in this particular nontrue experimental study. Within the

limitations imposed by the available data, the findings must be interpreted with a degree of caution; and, yet, meaningful trends emerged.

Like Head Start as well as other early childhood intervention programs discussed in Chapter II, there were immediate gains evidenced in the pre and posttest scores at the beginning and ending of the preschool intervention program itself (Newell, et al., 1971). The severe time limitations of that five-month program prompted questioning as to whether or not such gains could last in measurable ways through another year before entrance into kindergarten. The Preschool Inventory, however, indicated statistically significant differences between the scores of the program group and the comparison group, indicating that the experiences provided by the preschool program contributed to learning changes associated with educational intervention. Although the number of comparison subjects taking that test at the beginning of kindergarten was relatively small, the program subjects did show a "head start" into public school. This suggested that the experiences for cognitive, social, and language development that were a part of the planned preschool program prepared the program group more than just the home readiness factors contributed to the comparison group's readiness for kindergarten.

It might have been expected that Mexican-American migrant children, coming from culturally different and educationally disadvantaged homes with Spanish rather than English as the home language for communication and learning, would score considerably lower than a cross-section of English speaking disadvantaged children the same age. However, it was interesting to note that in determining norms for the Preschool Inventory, based on Head Start data throughout the United States in the fall of 1968, the mean and standard deviation for norms considered as mid-percentile ranks for age five years to five years, five months were 38.4 and 9.7

respectively for scores obtained from children in the South East region (Preschool Inventory Handbook, 1970, p. 18). This indicated only a slight difference in mean for the program group as compared to the regional norms for the Inventory. It appeared that the preschool intervention program compensated for their potentially increased deficits in school readiness and contributed to raising the Mexican-American migrant children's level of school preparedness.

A larger number of subjects from both groups had recorded scores for the Metropolitan Readiness Test in the fall of first grade. These scores, too, were statistically significant with the program group evidencing increased skills deemed necessary for first grade success. It would seem that the opportunity to be in a school setting, and to experience at an earlier age than kindergarten an educational curriculum intended to promote language and basic cognitive skills, tended to enhance school readiness in both kindergarten and first grade for the program group.

By the end of first grade, only one of the program subjects was retained at grade level; three of the comparison subjects were retained in first grade and one other child was assigned to a special education classroom. The statistical evidence, along with the promotion and retention factors, point to the fact that three years after the pilot preschool program ended in May of 1971, the children under study were maintaining longitudinal effects from the experience through the end of first grade, May 1974.

In the fall of second grade, the total battery scores on the Comprehensive Test of Basic Skills showed a mathematical difference in means of over nineteen points in favor of the program group. This difference was not statistically significant, however, even though there was a trend towards greater school achievement for the program group. The significant difference was found in the language subtest scores of the CTBS at this

grade level. It seemed apparent that the language emphasis in the preschool intervention program had a great enough effect to maintain language gains for the children from that program. The early introduction to English and the instructional language of the school evidenced positive contributions to achievement in language needs at this grade level.

The "wash-out" of gains in third grade was not surprising. Head Start evaluations led to the recognition of a need for Follow Through programs to promote continuous achievement gains for school-age children. Without such a Follow Through program emphasis, five years would have been a long time to expect a five-month intervention program to reflect measurable effects in school achievement.

The fact that the analysis of the CTBS at both second and third grades did not include scores for four comparison group subjects who were retained in first grade (or assigned to a special education classroom, in one case) and one program group subject retained in first grade, provides opportunity for outcome speculation. One might infer that only the "better" of the comparison students were included in the computation of means for those tests; or, that had the four retained students taken these test batteries at the time and their scores computed with the rest of the comparison group, the differences in means might have been significant in favor of the program group.

This study did not attempt to compare statistically the findings on the various measures to national norms, nor did the study compare findings to the district norms for that county's test scores. However, it was obvious when studying the test data that both groups of children were in most instances below national norms and district norms on the CTBS in both second and third grade. Educationally, this does not bode well for

either group. Certainly, school systems and their educators are not satisfied to have any group of students performing below average on achievement tests.

From the test records, the following information supported the observations just stated. The district grade equivalent mean for the second grade CTBS battery was 1.6 at the time these subjects were assessed on that test. For the program group four of the eighteen subjects were at district level or above, seven were between 1.0 and 1.5 grade equivalent, and seven were below 1.0. For the seven comparison subjects, none were at district level grade equivalent mean, three were between 1.0 and 1.5 and four were below 1.0. At the third grade level and of the fourteen program group subjects taking the CTBS, one was at the district grade equivalent mean of 2.4, three were between 2.0 and 2.5, four were between 1.6 and 2.0 and six were below 1.6. The comparison group of seven showed from that data that one subject was at district mean, three were between 2.0 and 2.3, two were between 1.6 and 2.0 and one was below 1.6.

When looking at the raw scores for the communication skills tests for the Florida Statewide Assessment Test, the expected range for the district was between the 34th percentile and the 60th percentile. Five of the eleven program subjects for whom scores were recorded fell within this range; six of the eight comparison group subjects were within the expected range.

These results substantiate Carter's (1970, p. 17-18) writings: "Mexican Americans as a group fail to achieve well on standard tests of academic achievement; . . . the gradepoint average of the Mexican-American group is generally lower than that of the Anglo group within the same school or district; . . . Mexican-Americans achieve at a rate substantially lower than national norms or their local Anglo counterparts

[in the area of language arts]; . . . [they do] relatively well in the 'fundamentals,' [of math] approaching local norms, but far below local norms in areas dependent on language ability."

Much has been written about the low academic achievement and IQ of Mexican-American children (Carter, 1970; Zirkel, 1972). In an article in The Urban Review, Zirkel reviewed many of the studies and research efforts that have looked at the results of standardized tests taken by Mexican-American children in both English and in Spanish. He wrote that as early as 1935, Manuel, then at the University of Texas, reported that Mexican-American students demonstrated higher scores on the Stanford-Binet Intelligence Test when given the Spanish version than when given the English version. Zirkel (1972, p. 34) looked at the Coleman Report, for example, and pointed out that the "scores of verbal ability were consistently lower than nonverbal ability scores for Mexican-American and Puerto Rican pupils in grades 1 to 12." He also referred to Mahakian's study, reported in a 1939 Elementary School Journal, that showed 87% of a total number of over 200 Spanish speaking children in elementary grades achieved higher scores on standardized reading test when given that test in Spanish. And in referring to a study by Davis and Bersonke, Zirkel (1972, p. 35) stated that although the "differences between Spanish and English administrations of the MRT were mostly nonsignificant for a group of Mexican-American first graders, . . . the mean scores on the subtest that most appropriately reflected their language background (Word Meaning) revealed a significant difference favoring the Spanish version."

This discussion is perhaps more relevant to the present study than might seem. It raised the question of how much difference is enough for a program to have had effect if children are still below "norms"

and if tests are unable to show just what children might actually know if the assessment procedures were in their favor. The question must be answered in studies yet to be made whether or not children who speak a home language different from the school language should be assessed on achievement tests developed for and written in English.

It was also apparent from the data that there were other considerations than just achievement test scores on which teachers made judgements as to the relative success of each child at each grade level. This was evident in the number of children from each group promoted or retained at grade level by the end of third grade. One is tempted to suggest that if different criteria were established for promotion other than the scores on standardized tests given to students, then perhaps the test results were of less importance in the school's general appraisal of school performance and success.

Teachers in Hardee County had expressed concern for the number of days migrant children were absent each year and equated this absence factor with school achievement. It seems appropriate to consider what some of the research has said about attendance and school performance in this discussion. Jencks (1972, pp. 93-94), in his contribution to the published papers from the Harvard University Faculty Seminar on the Coleman Report, stated that "exposure to schooling showed no appreciable relationship to achievement." He further stated that "findings do not suggest that efforts to develop 'year around schooling' or 'after school' programs are likely to boost achievement on tests of the type used in EEOS [referring to the Coleman Report]."

Soar (1973, p. 111) reported that "more frequent absences from school were associated with a decrease in motivation and a decrease

in creativity measures," but that absence measures failed to show a relationship to school achievement.

The Stanford Research Institute (1974, pp. 255-256) reported that, in analyzing Follow Through data for classroom observation evaluation in 1972-1973, first and third grade children tended to be absent less in classrooms where there was a high degree of "child independence, child questioning, adults responding, individualized instruction, and open-ended questioning . . . and where children and adults show more positive affect (smiling and laughing)." The report also stated that children were absent more from classrooms where they worked in large groups more, where there was corrective feedback from teachers, and where children were punished more frequently. The report on attendance concluded with the observation that "although the data are correlational and causal effects cannot be attributed to the instructional processes, the correlations are high enough, and the sample large enough, to suggest some directions for further research in absenteeism."

Whether or not attendance in school is significantly related to school performance is subject for another study, not this one. However, it seems to this investigator that, for children who come from educationally and socioeconomically disadvantaged home environments as do the Mexican-American migrant children, and who have the added disadvantage of a native home language that is different than the formal instructional language of the school, consistent absence from school may preclude these children from benefiting from the total educational program. It is possible that absenteeism may well contribute to poorer school performance in areas that the school system believes are important for testing purposes. Again, it is recognized that this is speculation and beyond the scope of this study. The facts are that many of the children

in this study were not in school for the full academic year; school authorities were and are concerned with their number of absences and nonenrollment weeks, and teachers believe that these absences contribute negatively to school achievement.

There is also the question of whether or not preschool education has a positive effect on school achievement for children. This has been discussed and argued pro and con by professionals and lay persons. Jencks' writings on the Coleman Report (1972, p. 92) questioned seriously preschool contributions to later school success: "If the nursery and kindergarten programs prevalent around 1960 had an effect on achievement, it was extremely small [and that there] is not very strong evidence for the theory that nursery school attendance boosts achievement." However, this observation was made about nursery schools for primarily middle class children. In 1960, few disadvantaged children from poverty homes had nursery schools to attend. The programs of the late 1960's and early 1970's grew out of the support for early childhood education for less advantaged children with educational emphasis on a curriculum to compensate for deficits in learning. Today, there seems to be little doubt that "good" preschool programs can contribute positively to children's learning.

In the Murray (1977, pp. 56-57) study referred to in Chapter II, the consortium conducting longitudinal research on early childhood education projects for disadvantaged children has found that "preschool effects on IQ tend to last for at least three years." The results of the analysis of the data from the twelve projects being studied indicated that "even when some of the environmental variables most commonly associated with IQ are controlled for, well run preschool programs using a great variety of approaches produce significant, immediate improvements in IQ which can last for several years."

In the data collection trips made to Hardee County by the investigator, one thing was very evident. Teachers and administrators were quick to give unsolicited praise to the intervention program. They reported that the program group seemed more confident in their school relationships, felt "good" about themselves, and did better in school than other children from the same backgrounds. The preschool program had been a part of the school system since its inception until the fall of the present school year, 1976, when the responsibility for implementation was given to the Spanish Mission in Zolfo Springs, Florida. Several members of the school community expressed the hope that the program might come under the auspices of the public schools again. There seemed to be, from these kinds of statements, the belief that the preschool program had value and merit for its participating children and that it would be worth having within the confines of the school system for greater continuity of educational programming.

The statistical findings and the over-all interpretation of these results indicated a substantial trend towards positive contribution to the longitudinal effects of the preschool intervention program on school achievement. It was apparent that the program did make a difference into second grade for the Mexican-American children who participated in that pilot program and who were enrolled in Hardee County schools at the time of this study. It was also evident that even though the gains faded in third grade with the comparison group "catching up" to the program group, there was a determination of over-all grade level success made by teachers that led to fewer children from the program group being retained by the end of the third grade than from the comparison group. If these kinds of significant trends could be realized

from a short-term intervention program, one might well assume that even greater statistical significance would be evidenced from a systematic intervention program of longer duration.

Recommendations

The following recommendations for proposed studies and further research are made as outgrowths from this study.

Recommendation One

Replication of the preschool intervention program described in Chapter I and for Mexican-American migrant children from age three to entrance into kindergarten is suggested. The language component of the curriculum should be emphasized with the teaching of initial concepts in Spanish followed by teaching these concepts in English as children provide evidence of understanding in their own language. The program should be controlled and monitored with an a priori control group established to enable planned evaluation of longitudinal effects on primary grade achievement of the experimental and control groups.

Nedler's research (1973, 1975) indicated that when Spanish speaking children were taught concepts in their own home language first and then in English, in a manner to insure a systematic and integrated approach to the instruction of both English and Spanish, three-year olds expanded their knowledge and use of Spanish with increasing skill and developed proficiency in English that accelerated their intellectual growth. The present study indicated that even with limitation of time, longitudinal achievement effects were measurable in the primary grades as a result of the language emphasis in the preschool program. In the case of early childhood education migrant programs such as those in Florida, efforts should be made to determine the most effective means of

compensating for and overcoming home learning deficits found in Mexican-American migrant children when they enter public schools.

Recommendation Two

A research study should be planned and implemented, with evaluation preplanned and resources provided for such evaluation, to determine the effects of teaching Spanish speaking migrant children in their home language as well as in English during their elementary school years. An experimental field research program should be designed, enabling the comparison of school achievement for children taught in this manner and children taught in the traditional manner of using English as the only instructional language of the classroom. John and Horner (1971) reported on public school programs using a bilingual approach to education. Evaluations of the Southwest Laboratory studies (Nedler, 1975) indicated increased school achievement for children in classrooms where Spanish is the accepted language for Mexican-American children and English is taught as a second language to meet the academic needs for mainstream American educational endeavors and success. The Dade County Public Schools' Coral Way Elementary School program (Inclan, 1972; John, & Horner, 1971; Logan, 1970) for middle class Spanish and English speaking children exemplifies a possible model for further investigation if directed towards a much more disadvantaged group of children. The St. Lambert studies (Lambert, & Tucker, 1972) have also shown increased school achievement in Canadian French and English speaking children. These kinds of proven programs could be replicated in a public school whose population is largely from educationally disadvantaged home backgrounds and where the language of the home is noneducated Spanish. Relevant research is providing pedagogical soundness for a bilingual approach in the education of non-English speaking children (John, &

Horner, 1971, p. xxiii). Language does play a critical role in the young child's learning process. White (1970) suggested that between five and seven, the child's language accelerates and the language becomes a way for problem-solving and learning. If language is viewed as an important cognitive function in the child's development, then "it follows that the introduction of a second, weaker language at this point (between five and seven) confuses the ordering process" (John, & Horner, 1971, p. xxiv).

Recommendation Two

A study should be undertaken to determine to what extent the home environment of Mexican-American migrant children contributes to school achievement. Walberg and Marjoribanks (1976), Guinagh and Gordon (1976), Hanes and Shea (1977), and Murray (1977) have indicated from their research that home environment plays an extremely important role in the total contributions to children's elementary school achievement. Such a study undertaken along with the two previous recommendations for field studies could contribute greatly to understanding the educational expectations of Mexican-American migrant families for their children, the efforts parents are making towards encouraging these expectations, and the outcome of an intervention program in relationship to the home environment. For example, the Home Environment Review, developed by Garber (1970) at the Institute for Development of Human Resources, University of Florida, for use in the Florida Parent Education Model of Follow Through, has proved reliable in determining home expectations for children (Hanes, & Shea, 1977).

Recommendation Four

Efforts should be made to examine the effects of true home-school partnerships upon the education of migrant children, and especially

Mexican-American migrant children from vastly different cultural backgrounds. Gordon's research (Gordon, & Breivogel, 1976) of the past ten years at the University of Florida is ample support for the fact that all parents are teachers of their children, are interested and concerned in the education of their children, and can be active partners with the school in the educational process. The use of parents from the target population of disadvantaged children as classroom paraprofessionals and home visitors was found to facilitate home-school liaisons in the University of Florida Follow Through Model communities (Gordon, 1976). Similar interventions could be replicated in non-Follow Through schools and should be considered as possible ways of creating bicultural approaches to public school education. In a recent issue of Theory Into Practice, Gordon and Greenwood (1977, p. 1) wrote: "The latest Gallup Poll . . . shows that the public sees schools as a resource for parent education. At the same time, legislatures and school systems are seeing parents as resources. This mutual recognition is a hopeful sign."

Citizen Advisory Committees (Greenwood, Breivogel, and Jester, 1977), established under Florida Law, 1973, Chapter 73:338, provide another community-school interaction for consideration of ways to meet the school needs of all of the children in attendance in each individual school. Through such joint parent-school efforts to meet the educational needs of a total school population, determination can be made as to the extent to which the failure of so many migrant children is a product of the failure of the child and his home alone or is also the failure of the school system.

Recommendation Five

Further research should be undertaken to determine an improved assessment program for non-English speaking student populations. Pintner and Sanchez, according to Zirkel (1972, p. 32), were "among the first to warn

that use of English-language intelligence instruments with [Spanish speaking] children is questionable. Although some of the research suggests that just the translation of a test into Spanish produces measurable gains in scores for these children, there is other research that points out that "standardized tests do not take into consideration that nonstandardized backgrounds of Spanish speaking students" (Zirkel, 1972, p. 37). The report on the proceedings of the National Conference on Early Childhood Education and the Chicano (Chavez, 1972) supported the consideration for the development of more effective instrumentation -- the development of specialized tests rather than traditional and more easily available tests. In Florida, Williams and Cheyney (1972) reported on innovative assessment measures for migrant children used by some elementary school teachers in a South Florida county school. These measures along with others should be more fully developed for the purpose of assessing the Mexican-American Spanish speaking child's knowledge and school performance.

Conclusion

These recommended research studies have potential for contributing to increased understanding of the Mexican-American migrant child's school needs and of ways to meet these needs. The findings from this present study give credence to the positive values of early intervention into learning. The findings also indicate the necessity for follow-up in the elementary school grades. Research related to the contribution made by the home environment to the education of children is adding to educator's knowledge of young children's learning patterns and learning needs. More must be learned about the Mexican-American migrant families' home environment in relationship to their children's school achievement.

As research and evaluation efforts contribute to increased knowledge and understanding necessary for developing improved educational programs for Spanish speaking children from migrant families, the important outcomes will rest in the combined commitment of funding agencies, research institutions, and public school educators to put theory into practice.

REFERENCES

- Abt Associates, Inc. Education as experimentation: A planned variation model. Report prepared for United States Office of Education. Cambridge, Mass.: 1974, 1975, 1976.
- Arthur, G. The arthur adaptation of the leiter international performance scale. Washington, D. C.: Psychological Service Center Press, 1952.
- Bereiter, C., & Englemann, S. Teaching disadvantaged children in the preschool. Englewood Cliffs, N. J.: Prentice Hall, 1966.
- Bernstein, B. Social structure, language, and learning. Educational Research, 1961, 5, 163-176.
- Biber, B., Wickens, D., Shapiro, E., & Gilkeson, E. Promoting cognitive growth: A developmental-interaction point of view. Washington, D. C.: National Association for the Education of Young Children, 1971.
- Bissell, J. S. Implementation of planned variation in Head Start. I. Review and summary of the Stanford Research Institute interim report: First year of evaluation. Office of Child Development, U. S. Department of H. E. W., 1971.
- Blank, M. Assumptions underlying preschool programs. Journal of Social Issues, 1970, 26, 15-33.
- Blank, M., & Solomon, F. A tutorial language program to develop abstract thinking in socially disadvantaged preschool children. Child Development, 1968, 39, 379-390.
- Bloom, B. S. Stability and change in human characteristics. New York: Wiley, 1964.
- Bruner, J. The process of education. Cambridge, Mass.: Harvard University Press, 1960.
- Bushnell, D., Jr., Worbil, P., & Michaelis, M. Applying "group" contingencies to the classroom study behavior of preschool children. Journal of Applied Behavioral Analysis, 1968, 1, 55-62.
- Butler, A. Current research in early childhood education. Washington, D. C.: American Association of Elementary-Kindergarten-Nursery Educators, 1970.

- Caldwell, B. M. The preschool inventory: Directions for administering and scoring. Princeton, N. J.: Educational Testing Service, 1967.
- Campbell, D., & Erlebacher, A. How regression artifacts in quasi-experimental evaluations can mistakenly make compensatory education look harmful. In J. Hellmuth (Ed.), Disadvantaged child (Vol. 3). New York: Brunner-Mazel, 1970.
- Campbell, D. T., & Stanley, J. C. Experimental and quasi-experimental designs for research on teaching. Chicago, Ill.: Rand McNally & Co., 1966.
- Carter, T. P. Mexican Americans in school: A history of educational neglect. New York: College Entrance Examination Board, 1970.
- Cazden, C. Subcultural differences in child language: An interdisciplinary review. Merrill-Palmer Quarterly, 1966, 12, 185-214.
- Cazden, C. Evaluation of learning in preschool education: Early language development. In B. S. Bloom, J. T. Hastings, & G. F. Mados (Eds.), Handbook on formative and summative evaluation of student learning. New York: McGraw-Hill, 1971.
- Chavez, R. (Ed.) Early childhood education and the Chicanito. Report of national conference. Tucson, Arizona, August 3, 4, & 5, 1972.
- Cheyney, A. B. The ripe harvest: Educating migrant children. Coral Gables, Fla.: University of Miami Press, 1972.
- Cicirelli, V., & Associates. The impact of Head Start: an evaluation of the effects of Head Start on children's cognitive affective development. Report to the U. S. Office of Economic Opportunity by Westinghouse Learning Corporation and Ohio University. Washington, D. C.: Government Printing Office, 1969.
- Cohen, D. K. The value of social experiments. In A. M. Rivlin, & P. M. Timpane (Eds.) Planned variation in education: Should we give up or try harder? Washington, D. C.: The Brookings Institution, 1975.
- Coleman, J. S., & Associates. Equality of educational opportunity. Washington, D. C.: U. S. Government Printing Office, 1966.
- Combs, E. F. Florida's early childhood learning program for migrant children. Young Children, 1971, 26, 359-363.
- Comprehensive tests of basic skills (expanded edition): Examiner's manual. Monterey, California: McGraw-Hill, 1974.
- Cross, W., & Bridgewater, M. Towards bicultural education for the southwestern Mexican-American. Education, 1973, 94, 18-22.
- Curtis, H., & Klock, J. A brief report of the evaluation of the Florida prekindergarten migrant education program. Mimeographed. Tallahassee, Florida: Florida State University, September 1970.

- Datta, L. Design of the head start planned variation experiment. In A. M. Rivlin, & P. M. Timpane (Eds.) Planned variation in education: Should we give up or try harder? Washington, D. C.: The Brookings Institution, 1975.
- DiLorenzo, L. T., & Salter, R. An evaluative study of prekindergarten programs for educationally disadvantaged children: Follow up replication. Exceptional Children, 1968, 35, 111-119.
- DiLorenzo, L. T., Salter, R., & Brady, J. T. Prekindergarten programs for educationally disadvantaged children: Final Report: New York State Education Department, December, 1969.
- Dunn, L. M. Peabody picture vocabulary test: Manual. Circle Pines, Minn.: American Guidance Service, Inc., 1965.
- Dunn, L., Horton, K., & Smith, J. Peabody language development kits, level P. Circle Pines, Minn.: American Guidance Service, Inc., 1965.
- Elkind, D. Giant in the nursery. New York Times, October 22, 1972, Sec. 4, p. 9.
- Elkind, D., & Flavell, J. H. (Eds.) Studies in cognitive development: Essays in honor of Jean Piaget. New York: Oxford University Press, 1969.
- Elmore, R. F. Design of the Follow Through experiment. In A. M. Rivlin, & P. M. Timpane (Eds.) Planned variation in education: Should we give up or try harder? Washington, D. C.: The Brookings Institution, 1975.
- Evans, E. D. Contemporary influences in early childhood education. New York: Holt, Rinehart, & Winston, Inc., 1975.
- Flavell, J. H. The developmental psychology of Jean Piaget. Princeton, N. J.: Van Nostrand, 1963.
- Florida Department of Education. Evaluation: Florida migratory child compensatory program. Tallahassee, Florida, 1969-1970.
- Florida State Department of Education. Florida statewide assessment test for third grade. Tallahassee, Florida, 1975.
- Fowler, W. Cognitive learning in infancy and early childhood. Psychological Bulletin, 1962a, 59, 116-162.
- Fowler, W. Teaching a two-year old to read: An experiment in early childhood learning. Genetic Psychology Monographs, 1962b, 66, 181-283.
- Fuller, E. M. Values in early childhood education. Washington, D. C.: Department of Kindergarten-Primary Education, National Education Association, 1960.
- Gaarder, A. B. Bilingual education: Central questions and concerns. New York University Education Quarterly, 1975, 6, 2-6.
- Garber, M. The home environment review. Gainesville, Fla.: Institute for Development of Human Resources, University of Florida, 1970.

- Gordon, I. J. Early child stimulation through parent education. Final report to Children's Bureau, Department of Health, Education, and Welfare. Memeographed. Gainesville, Fla.: Institute for Development of Human Resources, 1969.
- Gordon, I. J. The Florida parent education model. Gainesville, Fla.: Institute for Development of Human Resources, 1969.
- Gordon, I. J. Parent involvement in compensatory education. Urbana, Ill.: ERIC Clearinghouse on Early Childhood Education, 1970a.
- Gordon, I. J. Reaching the young child through parent education. Childhood Education, 1970b, 46, 101-106.
- Gordon, I. J. Parents as teachers. Theory Into Practice, 1972, 11, 145-201.
- Gordon, I. J. Toward a home-school partnership program. In I. J. Gordon, & W. F. Breivogel (Eds.) Building effective home-school relationships. Boston: Allyn and Bacon, Inc., 1976.
- Gordon, I. J., & Breivogel, W. F. (Eds.) Building effective home-school relationships. Boston: Allyn and Bacon, Inc., 1976.
- Gordon, I. J., & Greenwood, G. E. (Eds.) Theory Into Practice, 1977, 16, 1.
- Gotkin, L. Matrix games. Englewood Cliffs, N. J.: Prentice-Hall, 1968.
- Gray, S., Klaus, R., Miller, J., & Forrester, B. Before first grade: The early training project for culturally disadvantaged children. New York: Teachers College Press, 1966.
- Greenwood, G. E., Breivogel, W. F., & Jester, R. E. Citizen advisory committees. Theory Into Practice, 1977, 16, 12-16.
- Grotberg, E. H. Review of research, 1965 to 1969. Washington, D. C.: Government Printing Office, 1969.
- Guilford, J. P., & Fruchter, B. Fundamental statistics in psychology and education. New York: McGraw-Hill, 1973.
- Guinagh, B. J., & Gordon, I. J. School performance as a function of early stimulation. Final report to the Office of Child Development. Gainesville, Florida: Institute for Development of Human Resources, 1976.
- Hakes, D. T. Psychological aspects of bilingualism. The Modern Language Journal, 1965, 69, 220-227.
- Hanes, M., & Shea, J. The relationship between measures of home environment and school achievement of Follow Through children. Paper presented at the Annual Conference of American Educational Research Association, New York, April, 1977.

Havighurst, R. Developmental tasks and education. New York: Longmans, Green, 1952.

Hildreth, G., Griffiths, N., & McGauvran, M. Manual of directions: Metropolitan readiness tests. New York: Harcourt, Brace, & World, Inc., 1969.

Hillerich, R. L. Beginning reading program for Mexican American children. National Elementary Principal, 1970, 50, 80-84.

Hoffman, S., & Mottola, N. A resource guide for an exploratory curriculum for three-year-old migrant children. Final report to the migrant section, Florida Department of Education. Gainesville, Fla.: Institute for Development of Human Resources, College of Education, University of Florida, 1971.

Hughes, M. M., Wetzel, R. J., & Henderson, R. W. The Tucson early education model. Mimeographed. Tucson: Arizona Center for Early Childhood Education, 1969.

Hunt, J. M. Intelligence and experience. New York: The Ronald Press Co., 1961.

Hunt, J. M. The role of experience in the development of competence. In J. M. Hunt (Ed.), Human intelligence. New Brunswick, N. J.: Transaction Books, 1972.

Inclan, R. Can bilingual - Cultural education be the answer? Educational Horizons, 1972, 50, 192-195.

Jencks, C. S. The Coleman report and the conventional wisdom. In F. Mosteller, & D. Moynihan (Eds.), On equality of educational opportunity. New York: Vintage Books, 1972.

John, V. P., & Horner, V. M. Early childhood bilingual education. New York: The Modern Language Association of America, 1971.

Kamii, C. Evaluation of learning in preschool education: Socioemotional, perceptual motor, cognitive development. In B. S. Bloom, J. T. Hastings, & G. F. Madaus (Eds.), Handbook on formative and summative evaluation of student learning. New York: McGraw-Hill, 1971, 281-344.

Kamii, C. An application of Piaget's theory to the conceptualization of a preschool curriculum. In R. K. Parker (Ed.), The preschool in action: Exploring early childhood programs. Boston: Allyn and Bacon, Inc., 1972.

Karnes, M. B. A research program to determine the effects of various preschool intervention programs on the development of disadvantaged children and the strategic age for such intervention. Urbana, Ill.: University of Illinois, 1968.

Karnes, M. B. Research and development program on preschool disadvantaged children. Final Report to U. S. Department of Health, Education and Welfare. Washington, D. C.: Office of Education, Bureau of Research, May 1969.

- Karnes, M. G., Teska, J. A., & Hodgins, A. S. The effects of four programs of classroom intervention on the intellectual and language development of four-year-old disadvantaged children. American Journal of Orthopsychiatry, 1970, 40, 58-76.
- Kean, J. M. Review of the impact of Head Start: An evaluation of the effects of Head Start on children's cognitive and affective development. (A review of the Cicirelli report.) Childhood Education, 1970, 46, 449-451.
- Kerlinger, F. N. Foundations of behavioral research. New York: Holt, Rinehart, & Winston, Inc., 1973.
- Klaus, R. A., & Gray, S. W. The early training project for disadvantaged children: A report after five years. Chicago: University of Chicago Press, 1968.
- Labov, W. The study of nonstandard english. Champaign, Ill.: National Council of Teachers of English, 1970.
- Lambert, W. E., & Tucker, G. R. Bilingual education of children: The St. Lambert experiment. Rowley, Mass.: Newbury House, 1972.
- Laosa, L. M. Bilingualism in three United States hispanic groups: Contextual use of language by children and adults in their families. Journal of Educational Psychology, 1975, 67, 617-627.
- Lavatelli, C. S. Piaget's theory applied to an early childhood curriculum. Boston: American Science and Engineering, Inc., 1970.
- Levenstein, P. Cognitive growth in preschoolers through verbal interaction with mothers. American Journal of Orthopsychiatry, 1970, 40, 426-432.
- Linn, R. L. Anchor test study: The long and the short of it. Journal of Educational Measurement, 1975, 12, 201-215.
- Logan, J. L. One will do but we like two: The coral wav bilingual pilot project. National Elementary Principal, 1970, 50, 85-87.
- McDaniels, G. L. Evaluation problems in Follow Through: In A. M. Rivlin, & P. M. Timpane (Eds.), Planned variation in education: Should we give up or try harder? Washington, D. C.: The Brookings Institution, 1975.
- Maccoby, E., & Zellner, M. Experiments in primary education: Aspects of project Follow Through. New York: Harcourt, 1970.
- Manuel, H. T. Spanish speaking children of the southwest: Their education and the public welfare. Austin: University of Texas Press, 1965.

- Messick, S., & Borrows, T. S. Strategies for research and evaluation in early childhood education. In I. J. Gordon (Ed.), Early childhood education: The Seventy-first yearbook of the national society for the study of education. Chicago: University of Chicago Press, 1972.
- Metropolitan Achievement Tests. New York: Harcourt Brace Jovanovich, 1971.
- Miller, L. B., & Dyer, J. L. Experimental variation of Head Start curricula: A comparison of current approaches. Annual Progress Report submitted to the Office of Economic Opportunity, 1970.
- Murray, H. W. Early intervention in the context of family characteristics. Paper presented to the American Orthopsychiatric Association Annual Meeting, New York, April 16, 1977.
- Nedler, S. Progress report: A preschool program for Spanish-speaking children. Submitted to the National Institute for Mental Health, San Antonio, Texas, 1966.
- Nedler, S. Progress report: A preschool program for Spanish-speaking children. Submitted to the National Institute for Mental Health, San Antonio, Texas, 1967.
- Nedler, S. Language, the vehicle; culture, the content. Journal of Research and Development in Education, 1971, 4, 5-10.
- Nedler, S. A development process approach to curriculum design. In R. K. Parker (Ed.), The preschool in action: Exploring early childhood programs. Boston: Allyn and Bacon, Inc., 1972.
- Nedler, S. A bilingual early childhood program. Austin, Tex.: Southwest Educational Development Laboratory, 1973.
- Nedler, S. Explorations in teaching English as a second language. Young Children, 1975, 30, 480-488.
- Nedler, S., & Sebera, P. Intervention strategies for Spanish-speaking preschool children. Child Development, 1971, 42, 259-267.
- Newell, J., Cage, B., Hoffman, S., & Carr, G. Migrant early childhood education program in Hardee County, Florida: An evaluation. Final report to the Migrant Section, Florida Department of Education. Gainesville, Florida: Institute for Development of Human Resources, College of Education, University of Florida, 1971.
- Nie, N., Hull, C., Jenkins, J., Steinbrenner, K., & Bent, D. Statistical package for the social sciences. New York: McGraw-Hill, 1975.
- Nimnicht, G., McAfee, O., & Meier, J. Interim report: Research on the new nursery school. Greeley, Colorado: Colorado State College, 1967.
- Nimnicht, G., McAfee, O., & Meier, J. The new nursery school. New York: General Learning Corporation, 1969.

- Packer, A., Hoffman, S., Bozler, B., & Bear, N. Home learning activities for children. In I. J. Gordon, & W. F. Breivogel (Eds.), Building effective home-school relationships. Boston: Allyn and Bacon, Inc., 1976.
- Payne, J., Mercer, C., Payne, R., & Davison, R. Head Start: A tragedy-comedy with epilogue. New York: Behavioral Publications, 1973.
- Piaget, J. The origins of intelligence in children. New York: International Universities, 1952.
- Piaget, J. The language and thought of the child. (M. Gabain, trans.). New York: World Publishing Co., 1973.
- Piaget, J., & Inhelder, B. The psychology of the child. New York: Basic Books, 1969.
- Pitts, V. L. An investigation of the relationships between two preschool programs on the adjustment and readiness of disadvantaged pupils. Childhood Education, 1968, 44, 524-525.
- Popham, W. J. Educational evaluation. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1975.
- Preschool inventory (revised edition): Handbook. Princeton, N. J.: Educational Testing Service, 1970.
- Reissman, F. The culturally deprived child. New York: Harper, 1962.
- Riechen, H. W., & Boruch, R. F. (Eds.) Social experimentation: A method for planning and evaluating social intervention. New York: Academic Press, 1974.
- Rivera, V. A. The forgotten ones: Children of migrants. National Elementary Principal, 1970, 50, 41-44.
- Rivlin, A. M., & Timpane, P. M. Planned variation in education: An assessment. In A. M. Rivlin, & P. M. Timpane (Eds.) Planned variation in education: Should we give up or try harder? Washington, D. C.: The Brookings Institution, 1975.
- Roscoe, J. T. Fundamental research statistics for the behavioral sciences. New York: Holt, Rinehart and Winston, Inc., 1975.
- Schaefer, E. Need for early and continuing education. In V. Denenberg (Ed.), Education of the infant and young child. New York: Academic Press, 1970.
- Schaefer, E. Parents as educators: Evidence from cross-sectional, longitudinal, intervention research. In W. Hartup (Ed.), The young child (Vol. 2). Washington, D. C.: National Association for the Education of Young Children, 1972, 184-201.
- Shapiro, E., & Biber, B. The education of young children: A developmental-interaction approach. Teachers College Record, 1972, 74, 55-79.
- Shea, J., & Hoffman, S. Extending the curriculum: The home learning tasks. Theory Into Practice, 1977, 16, 2-6.

- Sigel, I. Development considerations of the nursery school experience. In P. B. Nuebauer (Ed.), Concepts of development in ECE: An institute conducted by the child development center, New York City. Springfield, Ill.: Charles C. Thomas Publishers, 1965.
- Sigel, I. Developmental theory and preschool education: Issues, problems, and implications. In I. J. Gordon (Ed.), Early childhood education. Chicago: University of Chicago Press, 1972.
- Sinclair-de-Zwart, H. Developmental psycholinguistics. In D. Elkind, & J. H. Flavell (Eds.), Studies in cognitive development: Essays in honor of Jean Piaget. New York: Oxford University Press, 1969.
- Smith, M. S. Design strategies for experimental studies. In A. M. Rivlin, & P. M. Timpane (Eds.), Planned variation in education: Should we give up or try harder? Washington, D. C.: The Brookings Institution, 1975.
- Smith, M. S., & Bissell, J. S. Report analysis: The impact of Head Start. Harvard Educational Review, 1970, 40, 51-104.
- Soar, R. Follow Through classroom process measurement and pupil growth (1970-1971) final report. Gainesville, Fla. Institute for Development of Human Resources, University of Florida, 1973.
- Southwest Educational Development Laboratory. Bilingual early childhood and bilingual kindergarten. Printed materials. Austin, Texas: National Educational Laboratory Publishers, Inc. (no date).
- Stodolsky, S. Defining treatment and outcome in early childhood education. Mimeographed. Chicago: University of Chicago, 1971. (Later in H. Walberg [Ed.] Rethinking urban education. San Francisco: Jossey-Bass, 1972.)
- Stodolsky, S., & Lesser, G. Learning patterns in the disadvantaged. Harvard Educational Review, 1967, 37, 546-593.
- Stanford Research Institute. Follow Through classroom observation evaluation, 1972-1973. Prepared for the United States Office of Education. Menlo Park, California, 1974.
- Tallmadge, G. K., & Horst, D. P. A procedural guide for validating achievement gains in educational projects. Los Altos, California: RMC Research Corporation, 1974.
- Van Der Reit, V. An evaluation of the effects of a unique sequential learning program on culturally deprived preschool children. Gainesville, Fla.: University of Florida, 1967.
- Vygotsky, L. S. Thought and language. Cambridge, Mass.: M. I. T. Press, and John Wiley, 1972.
- Walberg, H. J., & Marjoribanks, K. Family environment and cognitive development: Twelve analytic models. Review of Educational Research, 1976, 46, 527-551.


- Weber, E. Early childhood education: Perspectives on change. Worthington, Ohio: Charles A. Jones Publishing Company, 1970.
- Weikart, D. Preschool programs: preliminary findings. Journal of Special Education, 1967, 1, 163-181.
- Weikart, D. Comparative study of three preschool curricula. Paper presented at Society for Research in Child Development Convention, Santa Monica, California, 1969.
- Weikart, D. Relationship of curriculum, teaching, and learning in preschool education. In J. Stanley (Ed.), Preschool programs for the disadvantaged. Baltimore: The Johns Hopkins Press, 1972.
- Weikart, D., & Banet, B. Model design problems in Follow Through. In A. M. Rivlin, & P. M. Timpane (Eds.), Planned variation in education: Should we give up or try harder? Washington, D. C.: The Brookings Institution, 1975.
- Weikart, D., Rogers, L., Adcock, C., & McClelland, D. The cognitively oriented curriculum: A framework for preschool teachers. Washington, D. C.: National Association for the Education of Young Children, 1971.
- White, S. H. The national impact study of Head Start. In J. Hellmuth (Ed.), Disadvantaged Child (Vol. 3). New York: Brunner-Mazel, 1970.
- Williams, R., & Cheyney, A. Assessment tests for elementary school migrant children. In A. Cheyney (Ed.), The ripe harvest. Coral Gables, Fla.: University of Miami Press, 1972.
- Zirkel, P. A. Spanish-speaking students and standardized tests. The Urban Review, 1972, 5/6, 32-40.

BIOGRAPHICAL SKETCH


Mae Jewel (Stevie) Hoffman was born in Michigan, attended public schools in that state, graduated from Mancelona High School, and continued her education at Central Michigan University, receiving a Bachelor of Science degree with emphasis in early childhood education in February 1947. Mrs. Hoffman taught in the Ann Arbor Public Schools and in the American School, Brussels, Belgium, until June 1955. The following years were spent as a full time university faculty wife and mother of two daughters. When she reentered her professional world, in 1965, Mrs. Hoffman served as a demonstration teacher for an Institute for Teachers of Disadvantaged Children, University of Florida, as a Head Start consultant in north Florida, and then as the educational director for a complex of daycare centers in Gainesville and Alachua County, Florida, before beginning graduate work. Mrs. Hoffman received her Master's in Education, with a major emphasis in early childhood education, at the University of Florida in August 1970. At that time, she became an interim faculty member in the College of Education, University of Florida, teaching in the Early Childhood Education section until returning to complete her doctorate in Foundations of Education during the 1976-1977 academic year. Mrs. Hoffman was also a member of the Institute for Development of Human Resources during those six years, serving as a consultant for the Florida Follow Through Model and developing the curriculum for two preschool intervention

programs under grants received by the Institute and funded through the Migrant Section, Florida State Department of Education.

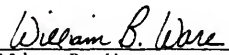
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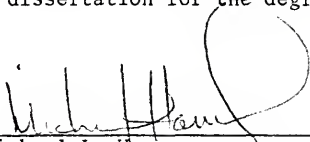
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Ira J. Gordon
Graduate Research Professor of
Foundations of Education

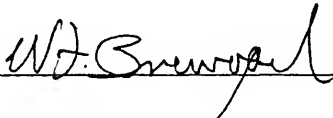
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


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This dissertation was submitted to the Dean of the College of Education and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August, 1977



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Dean, Graduate School

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